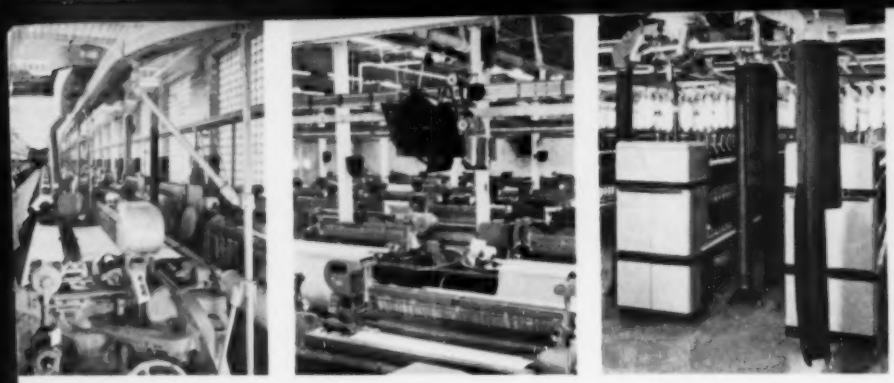

TEXTILE WORLD

Latest Word On Traveling Cleaners — p. 50

SEPTEMBER, 1960

PRICE $1.00

A McGRAW-HILL PUBLICATION

Your Guide to the Greenville Show page 136

MANAGING PREVENTIVE MAINTENANCE: How to Organize For Trouble, Boost Mill Profitability page 43

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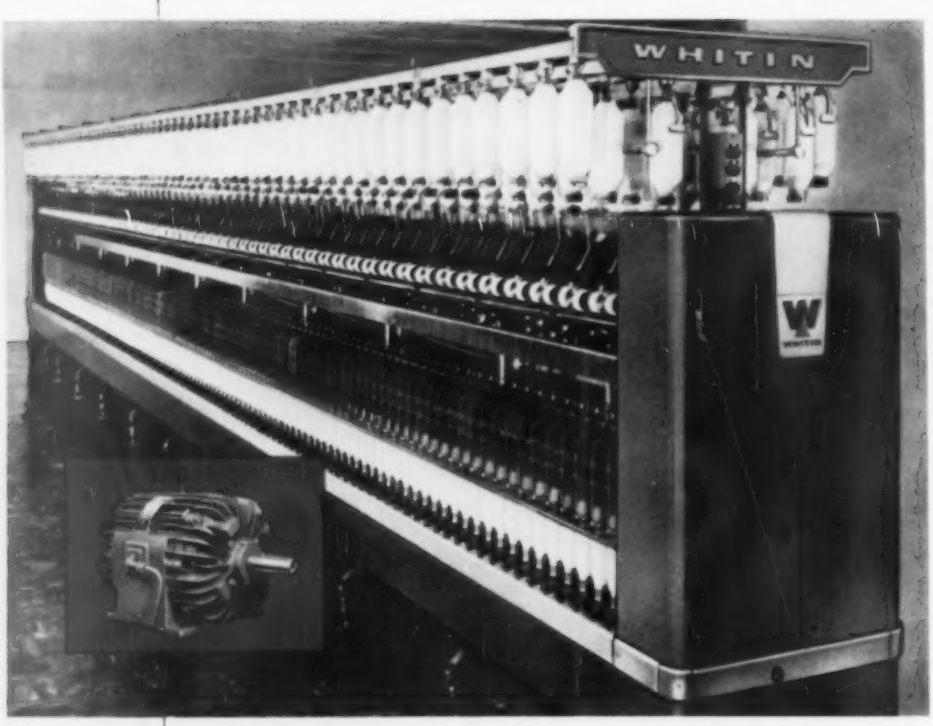


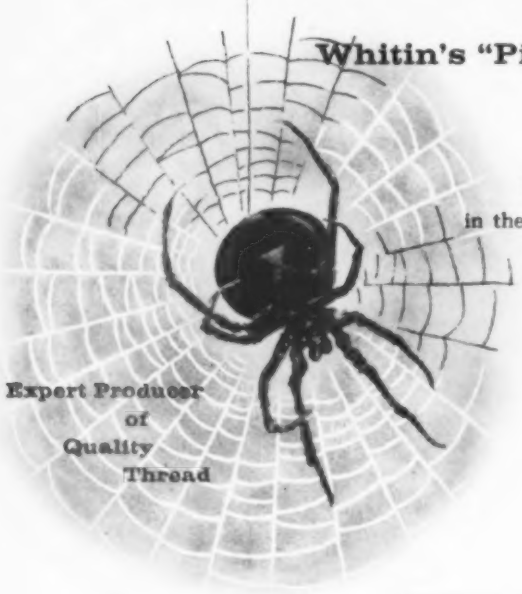
AT WHITIN MACHINE WORKS

DIEHL* Motors Power Whitin's "Piedmont" Spinning Frame—

Another Producer of Quality Yarn

This is another example of DIEHL ability to work closely with machinery manufacturers in the development and manufacture of motors with the precise characteristics needed for efficient machine operation . . . an important reason for using DIEHL motors to power your equipment.

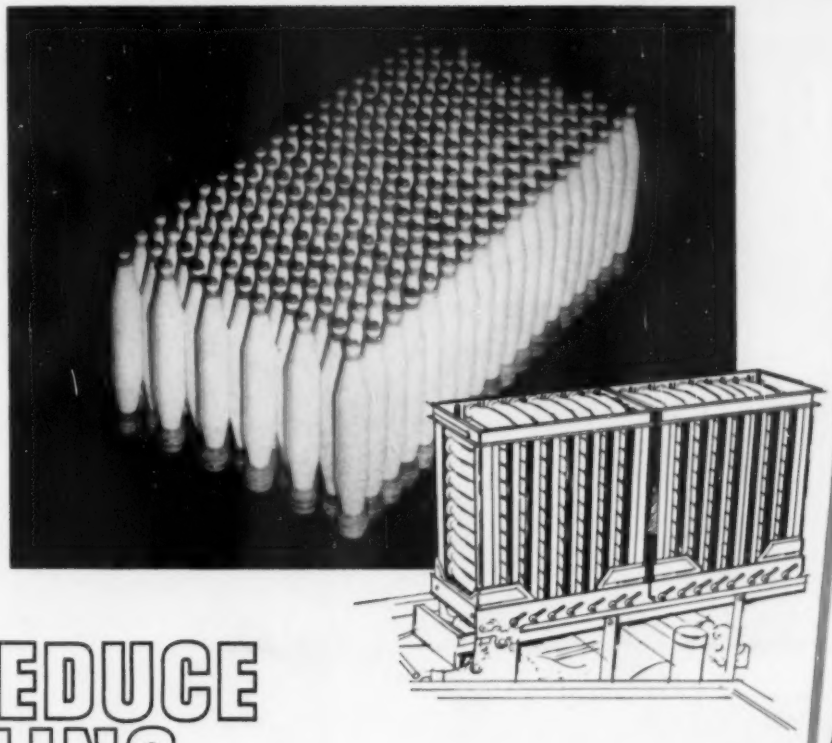
*Trademark of DIEHL MANUFACTURING COMPANY



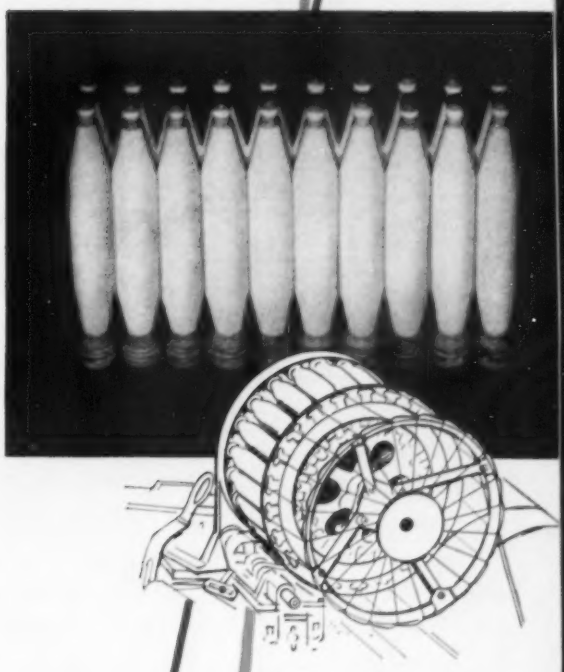
Diehl*

DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, NEW JERSEY

Baltimore · Chamblee, Ga. · Charlotte · Chicago · Cincinnati · Cleveland · Los Angeles · Milwaukee · Needham, Mass. · New York · Philadelphia · Syracuse



REDUCE FILLING HANDLING... TO A MINIMUM



The Draper Automatic Filling Magazine *with a bobbin supply of as many as 192 bobbins** reduces weave room costs.

This increased bobbin capacity, over the conventional Rotary Battery *eliminates much of the cost of delivering filling yarn to the loom.* More continuous loom operation, cleaner yarns and fewer cloth seconds are also direct advantages gained from the use of this magazine.

Compare the Draper Automatic Filling Magazine with the conventional battery and see for yourself the many benefits that can be obtained.

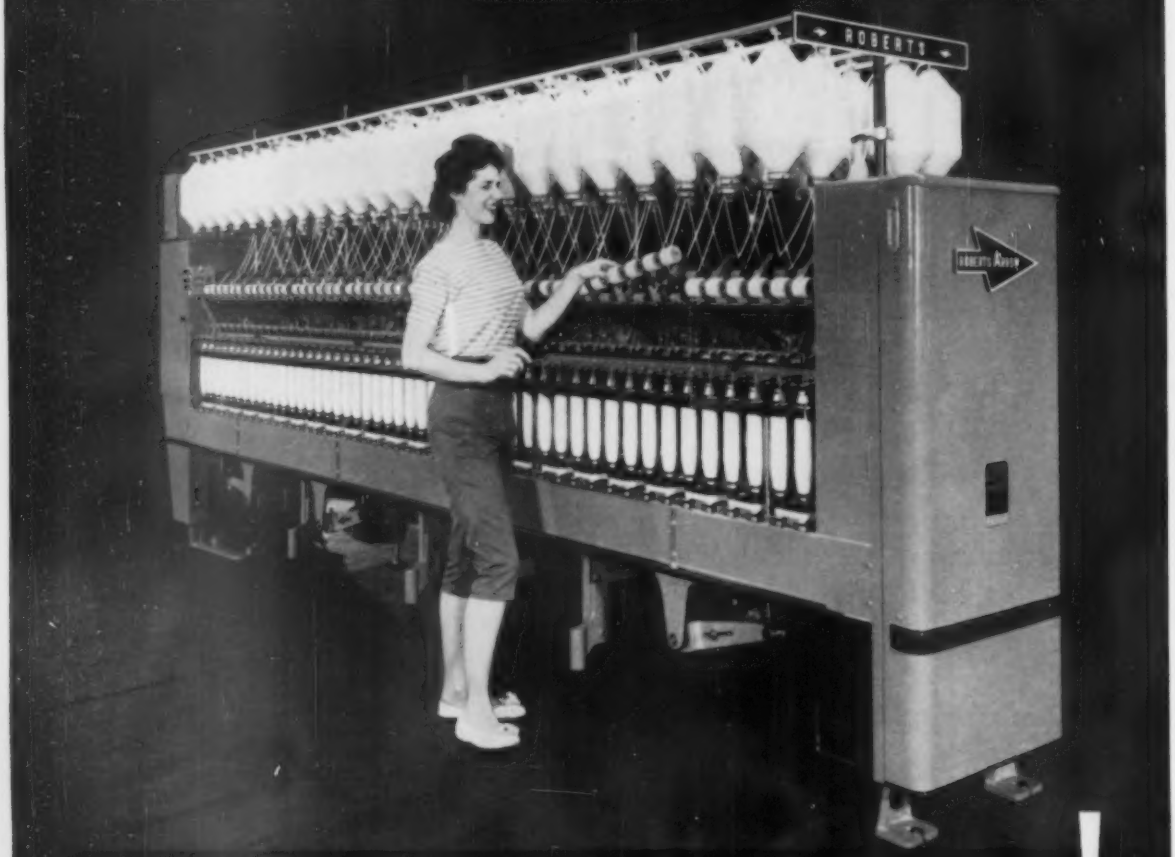
For additional information consult your Draper representative.

**1¼" diameter bobbins*

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

ROBERTS ARROW SPINNING



Spindle Speeds Over 13,000!

One of the most frequent questions asked today concerns high spindle speeds. The answer comes from many of the 850 Roberts Arrow Spinning Frames running in leading mills since 1956. Three examples are shown at the right.

The new and refined Arrow compares advantageously with all other all-ball-bearing frames and greatly outperforms all conventional and standard-type spinning frames. The Arrow offers the greatest dollar-for-dollar-value against any other make of frame in dependable performance, lowest initial cost, and maintenance-free operation.

Arrow Spinning is available for either the cotton or the worsted system for natural or man-made fibers or blends.

3 MILLS RUNNING ARROW FRAMES AT 12,300 to 13,200 R.P.M.

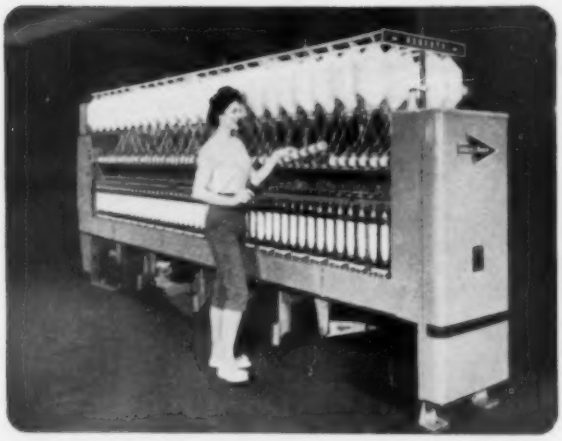
- **A major sheet manufacturer runs 36's warp yarn with 2" ring at 12,300 r.p.m. spindle speed on 44 Arrow frames.**
- **A major manufacturer of Dacron-cotton fabrics runs 50's on 66 Arrow frames with a 1-7/8" ring at 13,200 r.p.m. spindle speed.**
- **A major broadcloth manufacturer using 96 Arrow frames makes 40's with a 1-13/16" ring at 12,800 r.p.m. spindle speed.**

ROBERTS COMPANY

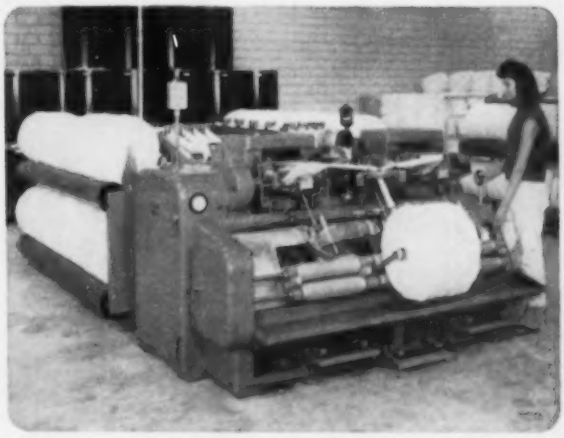
SANFORD, NORTH CAROLINA

ROBERTS

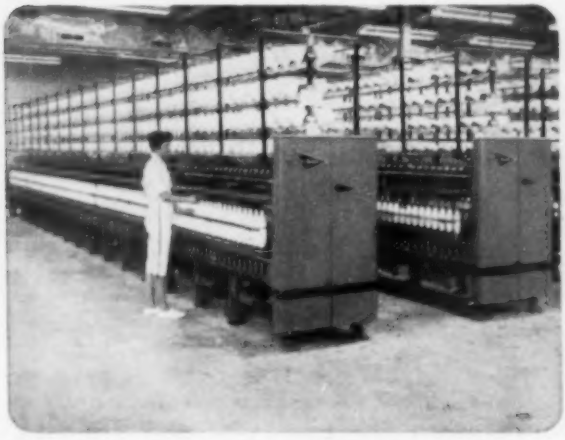
YARN MAKING MACHINERY
for Cotton, Worsted, or Long Fiber Systems



ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.



ROBERTS-TEMATEX worsted system preparatory machines, including ParaBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.



ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 3½-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.

ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.

Simplicity of design, rugged construction and high speed ball bearing operation are the trade marks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization change-overs for mills' existing machinery.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

TEXTILE WORLD

VOLUME 110, NO. 9 SEPTEMBER, 1960

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A New Logotype and Three New Articles

You may have noticed the new look that our magazine's name has this month—both on the cover and on the logotype on the page facing this one. We've picked this new logotype to convey a feeling of useful, fast-moving information—and we hope that TEXTILE WORLD's cover (no less than its contents) lives up to that standard. To give you an idea of just what this standard is going to mean, scan this list of coming articles:

Seven Rules of Committeemanship—The things you should know to get the most out of your work with mill committees. Timely examples and suggestions that will help you work better with other members of the management team. Watch for it in October's TEXTILE WORLD.

Measuring Employee Attitudes—What are your people thinking? And what do their thoughts mean? Clues on employee attitudes that you can put right to use will appear in an early issue.

The Systems Approach to Material Handling—What is the systems approach? How can you use this concept in cutting mill-inventory costs, smoothing production planning and control? You'll find answers that will give you a new insight into your inventory and handling problems—and into your role as a manager, too. Coming soon in TEXTILE WORLD.

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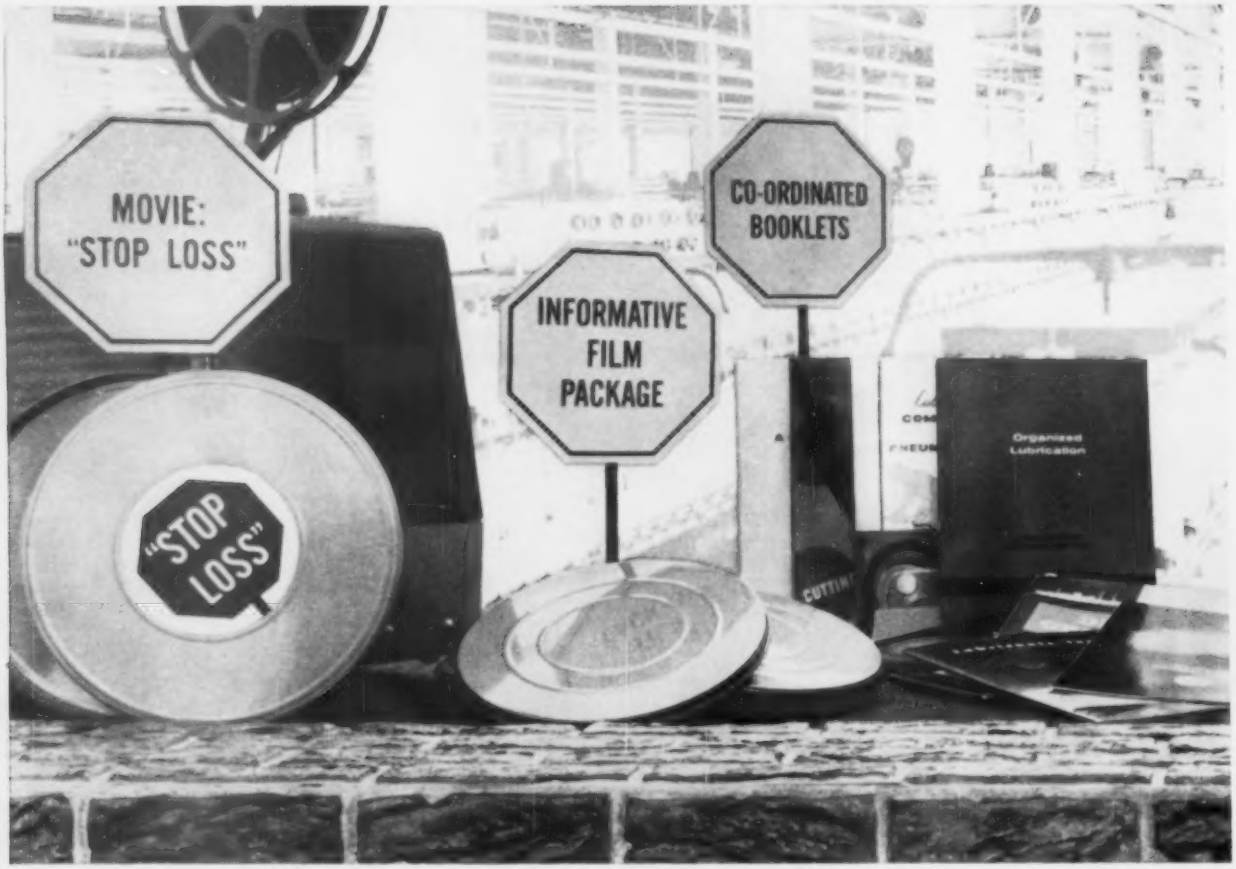


MOVIE: "STOP LOSS WITH ORGANIZED LUBRICATION," a new 20-minute color-and-sound film that dramatizes the opportunities for cost control through Organized Lubrication.

INFORMATIVE FILM PACKAGE for mill departments consists of movies on greases, hydraulic oils, cutting oils, etc., designed to help those involved with their selection and application.

HERE ARE THE TOOLS THAT CAN HELP YOU

INCREASE YOUR NET PROFITS

Texaco's new "Stop Loss" Program is designed to cut maintenance costs by modernizing lubrication practices. If yours is an average mill, the results can add 4 per cent to your net profit.

Even if your mill is a highly efficient operation, it is *still* virtually certain that there is an opportunity for cost control that you are overlooking—either partially or completely. It involves your lubrication practices.

Here's the reasoning: Most equipment failures can be traced, either directly or indirectly, to improper lubrication practices. Organized Lubrication could have prevented the failure—and the resultant savings would have gone directly into profits.

The 4 per cent figure is not hypothetical. It's what the Small Business Administration has found the average U. S. industrial operation can tack on to profits by *organizing its lubrication.*

Texaco's Program is designed to help you. Texaco has developed a "Stop Loss" Program specifically designed to help you cut maintenance costs via better lubrication practices. It will help you stretch equipment life, minimize downtime, reduce lube inventory, even cut purchasing costs. It costs virtually nothing to install, yet will start turning maintenance savings into profits almost immediately.

CO-ORDINATED BOOKLETS covering almost every facet of lubrication can be used as guides in specific areas.

TEXACO LUBRICATION CONTROL SYSTEM takes the guesswork out of all lubrication scheduling—makes sure that the right lubricant goes in the right place at the right time.

BY AS MUCH AS 4 PER CENT!

Can your mill pass this test?

Q. Is there anyone in your mill with direct responsibility for all lubrication? Yes ☐ No ☐

Q. Is there any mill-wide system for making sure that equipment gets lubricated on schedule? Yes ☐ No ☐

Q. Are your oilers qualified men with a knowledge of the mechanisms to be lubricated? Yes ☐ No ☐

Q. Have you made a lubrication study to determine if the right lubricants are being used at the proper frequencies? Yes ☐ No ☐

If the answer is "no" to any of the above questions, it's virtually certain that a Texaco "Stop Loss" Program can improve your profit picture.

See for yourself how "Stop Loss" works! Texaco has just released a new color-and-sound movie to dramatize the benefits of good lubrication practices. It's called "Stop Loss With Organized Lubrication" and we think it would be profitable for you to see it. For an early showing in your mill, mail the coupon today! Texaco Inc., 135 East 42nd Street, New York 17, New York.

MAKE YOUR RESERVATION TODAY!

TEXACO INC., Dept. TW-30
135 East 42nd Street
New York 17, N. Y.

I would like to see your new movie "Stop Loss With Organized Lubrication." Please call to arrange a showing.

Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____

TEXACO

NEW TAPE *Skein Dyeing*

ZIPPER TAPES AND OTHER NARROW FABRICS MAY NOW BE DYED IN SKEIN FORM IN THIS NEW MACHINE.

NOTE THESE FEATURES

- Skeins are suspended between stainless steel dyesticks
- Dyeing done in a relaxed condition
- No snagging—no place for tapes to catch
- Air operated front door
- Handles any material—natural or man made
- Steam coil for indirect heating
- Dye and chemical feed system providing even distribution
- Capacity rated from 100-500 lb.—up to 100% overload under favorable conditions
- Complete line of models from 10-50 sticks

KLAUDER WELDON GILES MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET
PHILADELPHIA 24, PA.

TEXTILE WORLD

CALENDAR

September

AATT, monthly meeting, Della Robbia Room, Hotel Vanderbilt, New York, N. Y., Sept. 7

Combed Yarn Spinners Association, annual meeting, The Cloister, Sea Island, Ga., Sept. 8 & 9

Textile Quality Control Association, fall technical meeting, Clemson House, Clemson, S. C., Sept. 8 & 9

Textile Symposium, annual meeting, Sedgefield Inn, Greensboro, N. C., Sept. 15 & 16

Southern Textile Methods & Standards Association, Clemson House, Clemson, S. C., Sept. 22 & 23

First International Textile Dyestuffs, Finishes and Auxiliaries' Exhibition, Free Trade Hall, Manchester, England, Sept. 22 & 23

AATCC, Piedmont Section, Hotel Charlotte, Charlotte, N. C., Sept. 23 & 24

Chemical Finishing Conference, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C., Sept. 28 & 29

Northern Textile Association, annual meeting, Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 28 & 29

North Carolina Textile Manufacturers Association, annual meeting, Carolina Inn, Pinehurst, N. C., Sept. 29 & 30

October

21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

AATCC, national convention, Sheraton Hotel, Philadelphia, Pa., Oct. 6 to 8

Southern Textile Overseers Association, annual meeting, Hotel Greenville, Greenville, S. C., Oct. 7

Carded Yarn Association, annual meeting, Grove Park Inn, Asheville, N. C., Oct. 19-22

Ga. TOE, fall meeting, Hightower Building, Georgia Institute of Technology, Atlanta, Ga., Oct. 22

Fiber Society, fall meeting, Washington Hotel, Washington, D. C., Oct. 27 & 28

1961

March

American Cotton Manufacturers Institute, annual meeting, Fontainebleau Hotel, Miami Beach, Fla., March 23 to 25

April

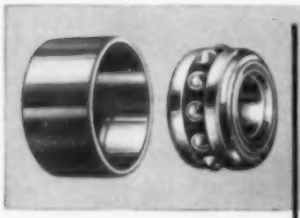
45th Knitting Arts Exhibition, Civic Auditorium, Atlantic City, N. J., April 24 to 28

PRODUCT INFORMATION

A Complete Line Of Cost-Saving Sealed Ball Bearings For Modern Mill Efficiency!

N/D sealed ball bearings offer many production savings for modern textile mill operation. They permit higher speeds and production . . . require less power . . . and reduce maintenance substantially. N/D textile bearings are produced with integral closures to exclude foreign matter as well as protect valuable yarn and goods against damaging oil spatters. Many are lubricated and sealed-for-life. Others use N/D's Injection-Relubrication system, permitting revitalization of bearing lubricant for continued, trouble-free performance.

If you're modernizing, rebuilding, or designing new textile machinery, it will pay you to contact the N/D Sales Engineer in your area. Or, call New Departure Division, General Motors Corporation, Bristol, Connecticut.



SPINDLE BEARINGS

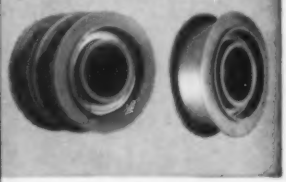
. . . cylindrical outer race permits removal of spindle from bolster without removing bolster from rail. Used for step bearings as well as in high-speed spindle applications.

TREADLE ROLL BEARINGS

. . . permanently lubricated for long service. Designed to eliminate sparking. Double seals prevent leakage of lubricant, keep out dirt and lint.

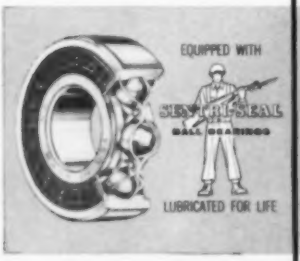
TENSION PULLEY BEARINGS

. . . available for both vertical mounting of idler and tension pulleys . . . or horizontal mounting of tape tension pulleys.



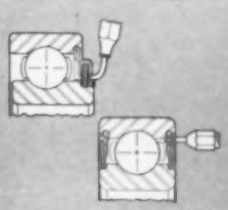
SHEAVE BEARINGS

. . . for automatic looms. Self-sealing assures protection of textiles against splatter, eliminates relubrication problem. Designed to permit nesting in gangs on harness sheave supporting shaft.



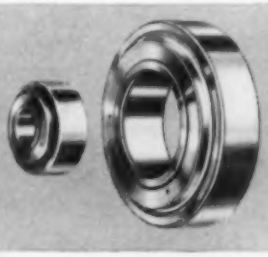
PRECISION BEARINGS WITH SENTRI-SEAL

. . . keep lubrication in, seal out lint, dirt, moisture for life. Seals are synthetic rubber with molded-in spring steel insert. For most ball bearing types and sizes.



INJECTION-RELUBRICATION SYSTEM

Hollow needle and metering oiler extend grease life in bearings for many months in high-speed, long-service applications.



PRECISION BALL BEARINGS WITH FELT SEAL

. . . annular ball bearings are protected from dirt, retain lubricant by integral felt closures. Complete line from 5mm. to 2¾" bore, relubricated by injection.

ADAPTER BEARINGS

. . . easily applied to shafts; positive lock. Pre-lubricated, sealed. For moderate loads and speeds. Spherical or cylindrical O.D. for shafts ½" to 2 7/16" dia.

SEND FOR N/D TEXTILE BALL BEARING CATALOG TEX-1

NEW DEPARTURE
BALL BEARINGS
NOTHING ROLLS LIKE A BALL

Schlafhorst

AUTOCOPSER

Established in all its versions in scores of American textile plants as the most flexible and most economical quilling operation . . .

SERVOLOOM AUTOCOPSER . . . to wind cotton and spun synthetics for the Draper Automatic Filling Magazine . . .

BOXING AUTOCOPSER . . . to wind worsteds, woolens, blends, cottons and spun synthetics . . .

CONTINOFIL AUTOCOPSER . . . to wind all spun and continuous filament yarns.

On exhibit at the . . .

SOUTHERN TEXTILE EXPOSITION

Textile Hall, Greenville, S.C., Oct. 3-7, 1960 . . . together with a new member of the Schlafhorst Family . . . the Schlafhorst **AUTOCONER** . . .

Both sold and serviced by The Terrell Machine Company, Charlotte, N.C.

THE TERRELL MACHINE COMPANY, CHARLOTTE, N.C.

TERRELL PRESENTS

Terrell presents the Schlafhorst **AUTOCONER** . . . for knitting . . .
dyeing . . .
warping . . .
quilling . . .
weaving . . .
the ultimate in high-speed, fully automatic, completely versatile cone — or cheese winding . . . The first public showing will be held at the . . .

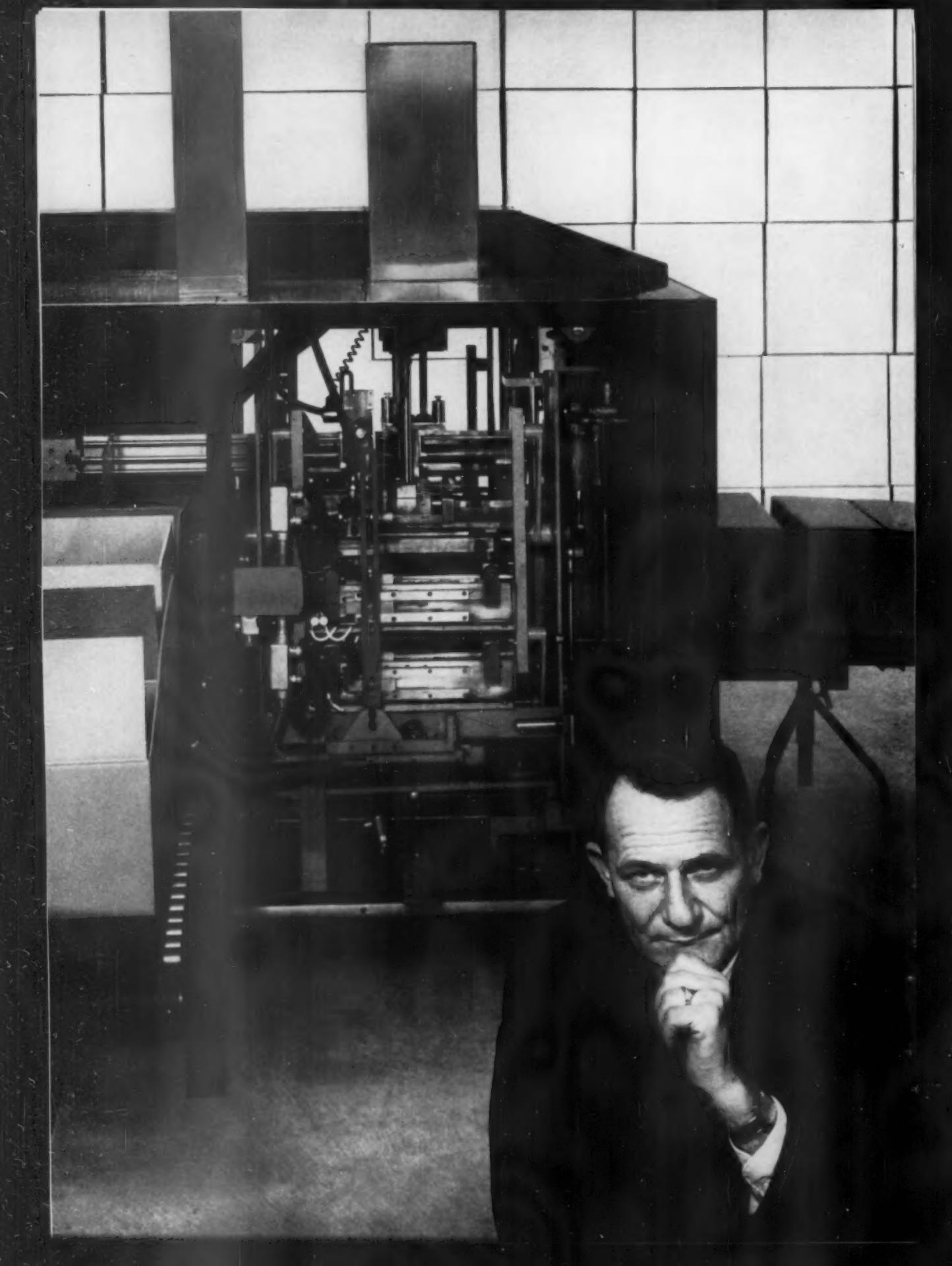
SOUTHERN TEXTILE EXPOSITION

Textile Hall, Greenville, S.C., Oct. 3-7, 1960.

The Schlafhorst **AUTOCONER** will be in full operation . . .

Also be sure and see the famous Schlafhorst **AUTOCOPSER** . . . both sold and serviced in the United States and Canada by the Terrell Machine Company, Charlotte, N.C.

THE TERRELL MACHINE COMPANY, CHARLOTTE, N.C.



Meet our mechanical man

Bill Jacobi has been fighting packaging inefficiency since the days of string tying.

Some day he hopes to win. Many claim he already has. Particularly users of Union-Camp shipping containers.

It's easy to understand why. As a result of putting some of his automation ideas to work, these companies have saved thousands of dollars in reduced handling and labor costs. To say nothing of increased production rates.

According to Bill, who's Director of our Package Engineering Department, packaging costs are like an iceberg. Only the top portion—or surface costs—can be seen. This is represented by the packaging materials.

It's the hidden costs that cause the trouble. These sizable expenses take the form of filling, handling, weighing, maintenance, labor, closing, warehousing and product damage. And it takes an expert to analyze them and make recommendations that will keep them to a minimum.

This is precisely the type of service Bill and his team of specialists provide. Their studies cover inventory control. Plant layout. Filling and handling techniques and equipment. Manpower expense. Adaptability of containers to palletizing as well as to present (and anticipated) traffic flow. In fact, anything that contributes ultimately to reducing the unit-packaging-cost of the product—whether it's applesauce or appliances.

As Bill puts it, "In today's profit-squeeze economy, one of the only avenues left for achieving significant savings is through more streamlined packaging and handling of the manufactured product. It's an avenue well worth exploring."

If you agree, he'll be glad to explore it with you. There's no obligation. Just drop us a note on your letterhead.

UNION-CAMP®

CORRUGATED BOXES

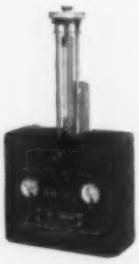
Union Bag-Camp Paper Corporation 233 Broadway N.Y. 7, N.Y.

Plants: Savannah, Georgia · Trenton, New Jersey · Chicago, Illinois · Lakeland, Florida · Spartanburg, South Carolina · Jamestown, North Carolina
Subsidiaries: Allied Container Corporation, Dedham, Massachusetts
The Eastern Box Company, Baltimore, Maryland.

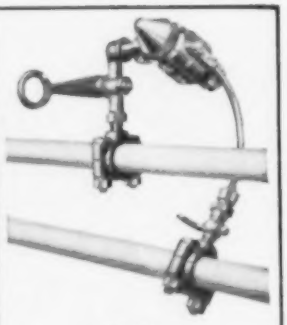
These Amco Air Condition Systems and Devices are designed for improving atmospheric conditions within your mill

No. 6 Atomizer

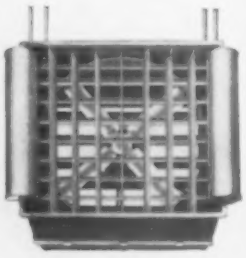
Atometer



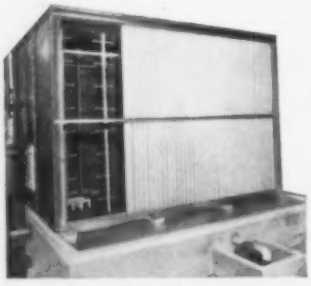
Humidity Control



Aeromizer



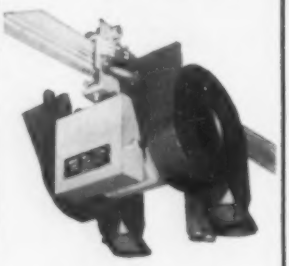
Evaporative Cooling Unit



Air Washer

Modulating Interrupter

Ceiling Cleaner



Loom Cleaner

Sling Psychrometer

Blow-Thru Diaphragm Valve

See them at the
21st So. Textile Exposition
at
Greenville, N. C.
Oct. 3-7 • Booths 840-844

Amco Air Conditioning Devices are *quality* textile mill equipment . . . backed by a company with more than 70 years experience in solving textile air treatment problems. You can always rely on Amco to give you dependable advice and an expert installation best suited to your needs.

AMCO

Since 1888

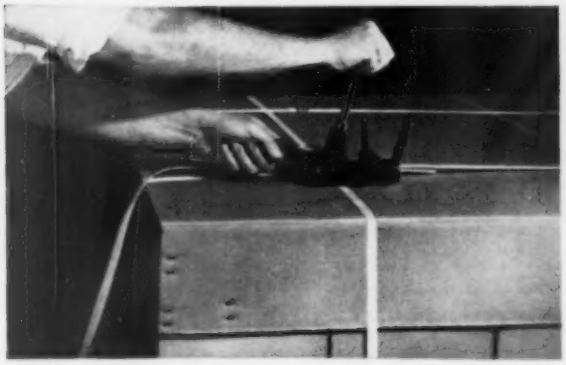
Air Conditioning Equipment — Textile Specialties

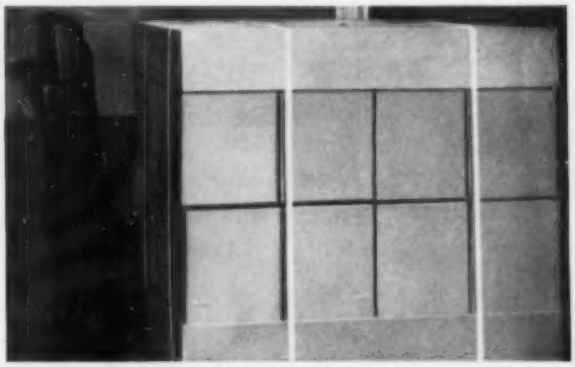
American Moistening Company, Cleveland, North Carolina
Branches: Atlanta, Ga., Providence, R. I., Toronto, Ont.

NEW SAVINGS

1 **New strapping material**—new low cost. Made of super-strong Avisco® rayon, AVISTRAP cord strapping costs less than metal strapping and reinforced tapes of comparable strength, offers many more important advantages.

2 **Easy handling, lightweight.** All coils of AVISTRAP cord strapping weigh 21 lbs. Yardage equals 100 lb. coil of comparable width steel strapping. Simple, low-cost dispensers permit replacement of coils in a few seconds.





3 **Low cost per package.** You invest less per package with AVISTRAP because its initial cost is low. In many instances, corner protectors can be eliminated. AVISTRAP is also extremely safe to handle, won't injure personnel.

4 **Saves on shipping costs.** AVISTRAP adds little weight to packages—as little as one-seventh the weight of steel strapping. Result: substantial savings for shippers. Also important, AVISTRAP won't damage merchandise.

AVISTRAP* CORD STRAPPING

Super Strength • Safety • Reduced Damage • Easy Handling • Locally Available

AVISTRAP*
CORD STRAPPING

*Trademark of American Viscose Corporation. Patents pending.

AMERICAN VISCOSE CORPORATION, INDUSTRIAL PACKAGING DEPT.
1617 PENNSYLVANIA BLVD., PHILADELPHIA 3, PA.

Make Your Own Test (check to indicate request)

☐ Please send me sample and information.

☐ Please put me in touch with distributor nearest me.

Name_____

Title_____

Company_____

Address_____

City_____ State_____

Match your operating needs with Expert Custom Design

Bahnson provides experienced planning which cuts waste, gives you flexibility for the future, takes into account operating expense, and helps you insure the quality of your product.

With almost 50 years of specialized experience in textile air conditioning, Bahnson engineers can more efficiently analyze your air conditioning needs. Based on expert professional counsel in the beginning, correctly engineered component parts can be fitted correctly to specific operating and manufacturing requirements.

Let a Bahnson representative assist you in your air conditioning needs. There is no obligation.

Bahnson
AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.

Booth 830-831, Greenville Textile Show

Index of Textile-Manufacturing Activity
(Man-hours worked, adjusted for changes in productivity 1954=100)
1957
Jan. 108
Feb. 108
Mar. 107
Apr. 107
May 106
June 107
August Estimate 117
124 122 120 118 116 114 112 110 108 106 104 102 100 98 96 94
J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1957 1958 1959 1960

A Starring Role

The textile industry is carrying more than its share of the load in the 1960 economy. In fact, the industry is playing a starring role in the nondurable sector of the economy—the sector that is providing most of the steam in the present semi-boom. Durable goods, meanwhile, are setting no records at all.

•

Despite the fact that expansion of economic activity in many areas has slowed down to a crawl, no signs of a recession have shown up yet. Consumption, which provides the most important impetus to Gross National Product, will continue to rise, spurred on by rising personal incomes. Add to that Government expenditures. Total increase in such spending in the next year is now estimated to be about $6-billion. That increase will be split between federal and local governments.

•

On the other hand, total investment will probably be a drag on the economy in the months ahead. Inventory investment will be down sharply and will only be partially offset by moderately improving outlays for plants and equipment and rising housing outlays.

•

Exports saw their spectacular growth during the first half of this year and are unlikely to provide much more push to the economy even though they will continue to rise somewhat. This segment of total business is of course quite small, but an improvement as large as we had this spring can add some bounce to business.

Figures of the Month

TEXTILE-INDUSTRY INDICATORS

	Latest Month	Previous Month	Year Ago
Textile World's Exclusive Index (chart above)	114.4	118.3	119.1
Employment (thousands)[1]	942.1	960.8	965.2
Production Workers (thousands)[1]	847.8	866.0	873.0
Weekly Earnings[2]	64.31	65.69	63.83
Hourly Earnings[2]	1.62	1.63	1.58
Weekly Hours Worked[1]	39.7	40.3	40.4
Production Index (1947-49=100)[3]	127	126	107
Wholesale Price Index (1947-49=100)[1]	96.3	96.3	95.3
Manufacturers' Sales (million $)[3]	1270*	1290	1281
Manufacturers' Inventories (million $)	2740*	2710	2532
Inventories-to-Sales Ratio	2.16*	2.10	1.91
Exports (million $)[6]	122.5*	128.1	78.6
Imports (million $)[6]	109.2*	94.5	101.4
Stock Price Index (1941-43=10)[4]	27.49	27.69	33.23
Failures (number)[5]	5	5	4

NATIONAL ECONOMIC INDICATORS

Industrial Production (1947-49=100)[2]	166	166	153
Consumer Price Index (1947-49=100)[1]	126.6	126.5	124.5
Wholesale Price Index (1947-49=100)[1]	119.7	119.5	119.5
Civilian Population (millions)[6]	177.9	177.8	174.6
Unemployment (millions)[6]	4.0	4.4	3.7
Employment (millions)[6]	68.7	68.6	67.6
Personal Income (billion $)[3]	407.1	406.1	384.0

*June; otherwise, latest month is July.

1. Bureau of Labor Statistics; 2. Federal Reserve Board; 3. Department of Commerce; 4. Standards & Poors; 5. Dun & Bradstreet; 6. Bureau of the Census.

NEWS and COMMENT. . . . . .

TEXTILE MEN CAN LOOK FOR A DECISION ON PERIL-POINT TARIFFS EARLY IN OCTOBER. That was the word from Washington as textile-industry spokesmen ended their testimony before the Tariff Commission and the U. S. Committee for Reciprocity Information. Braving Washington's mid-August heat and humidity to state their views, industry representatives sought to eliminate all textile items from the list of tariff-reduction "offerings" the United States may propose when international tariffs are renegotiated early next year under the General Agreement on Tariffs and Trade (GATT).

Significant fact: To a man, the spokesmen opposed any lowering of "peril points" (the points below which tariffs cannot be lowered without injuring domestic industries). Yet they represented widely different segments of the industry--manufacturers and union officials, natural and man-made fiber interests, spinners, weavers, and integrated operations. For instance, cotton-industry representatives stood side by side with man-made-fiber interests, though cotton fabrics are not included in the "offering" list.

OVERSEAS, TEXTILE ACTIVITY IS HOLDING AT HIGH LEVELS.

Cuba--The Communist newspaper "Hoy," according to TEXTILE WORLD's Havana News Bureauman H. W. Goethals, reports that Iron Curtain countries have pledged to build a flock of manufacturing plants in Cuba, including at least two textile mills. Russia and Czechoslovakia each will build a $6-million mill employing 1,000 people, to be completed in June 1962.

Italy--Russian goods, including carpets, lace, embroidery, and curtains, soon will be on sale in Italian department stores, says Gene Di Raimondo, TW's correspondent in Milan. This will be the first delivery of Russian goods under an agreement providing for exchange of $1.6-million of consumer goods. Italy will send textiles, dresses, and footwear to Russia.

Israel--The government will provide up to 70% of the capital needed to establish a $1-million mill for fine worsted yarn in Kiriath Gath, says Sig Goldstein, TW's correspondent in Tel Aviv. A Latin American group will pony up the remaining 30%, plus technical guidance. The plant will have about 6,000 spindles, will produce about 400 tons of yarn per year.

West Germany--Production of textile machines and allied equipment in the first half of this year was 16.5% above the figure for a year ago, says Jim Morrison, TW's Bonn newsman. Only obstacle to an all-time high in production is a shortage of skilled labor, which is also hindering production of textile-mill products. Yarn output, for instance, now running 15% above last year, is bumping against the ceiling of manpower availability. Yarn processors therefore may have to turn to imported yarns to fill their growing needs, which are now running 16% above last year's needs.

PROFITS AMONG TEXTILE MANUFACTURERS: MOSTLY UP, BUT SOME DOWN. SAMPLINGS:

Company	Latest Period	Sales ($-Million) 1960	Sales ($-Million) 1959	Net Income ($-Million) 1960	Net Income ($-Million) 1959	Comment
Cone Mills	6 mo.	$103.2	$ 99.8	$ 2.9	$ 2.6	
Industrial Rayon	6 mo.	24.9	15.7	1.4 Loss	0.6	Curtailed production; start-up on new yarns, fibers.
Lowenstein	6 mo.	242.0	225.2	3.9	1.9	More orders than a year ago. Plants now at capacity.
Beaunit	3 mo.	25.9	29.3	1.0	1.7	Lower prices for Tyrex yarn.
American Viscose	6 mo.	166.2	186.8	11.0	16.0	Reduced shipments, lower prices.
Burlington	9 mo.	688.5	581.6	28.8	18.3	1960 figures include James Lees.
Pepperell	12 mo.	100.2	93.0	3.5	2.5	Backlog is very satisfactory.
Dan River	6 mo.	85.9	85.2	3.7	2.6	
United Elastic	6 mo.	16.2	17.1	1.2	1.2	Higher efficiency in mills.
Celanese	6 mo.	137.5	127.6	10.1	10.4	

MEANWHILE MACHINERY AND EQUIPMENT MAKERS AND ALLIED INTERESTS ARE THRIVING. Crompton & Knowles Corp. reports net income of $1,359,000 for the first six months of 1960 vs. $592,000 a year ago, and a rise in sales to $14,495,000 from $10,487,000. Production is booked for a long stretch ahead.

Whitin Machine Works reports net income of $2,547,135 on net sales of $35,002,018 for the first half. This is the first half-year statement the company has ever issued. Backlogs are 50 to 75% ahead of a year ago.

Mill Factors Corp. reports net income of $230,236 on volume of $115,128,558 in the first half of 1960 vs. $189,854 and $97,072,207 a year ago.

Textile Hall Corp. announces a 4,000-sq.-ft. addition to floor space for the 21st Southern Textile Exposition, October 3-7, at Greenville, S.C. This brings total to well over 100,000 square feet--a record high. Officials say demand for booth space is unprecedented.

Leesona Corp. reports sales of $15,911,034 and income of $1,362,763 for the first half of the year vs. $11,235,270 in sales and $913,680 a year earlier.

WASHINGTON OUTLOOK.....

American textile manufacturers took a well-beaten path to Washington last month to plead their case for more--not less--government protection against competing imports of cotton, wool, silk, and man-made fibers. The manufacturers are now aiming their fire at future controls instead of trying to win immediate relief.

Industry leaders had a chance to press their suggestions for trade-policy adjustments when they testified before the Tariff Commission and the Committee for Reciprocity Information. Again, the focus was on next year's scheduled round of international tariff cuts under the General Agreement on Tariffs and Trade (GATT).

*

Samples of testimony: American Cotton Manufacturers' Institute Committee Chairman, Robert M. Schwarzenbach, and Textile Workers' Union President Solomon Barkin both supported a significant change in Tariff Commission policy in setting up the so-called secret "peril points"--the duties below which United States negotiators will not offer tariff cuts because of the threat of serious domestic industry injury.

*

Usually the commission only considers present and actual threats of injury in the light of current import rates and levels. Both Schwarzenbach and Barkin urged the commission to take potential competition into consideration. "It is necessary to envisage realistically just who the competitors will be," Barkin said. He went on to charge that present procedure, which relies on average invoice prices, is "inappropriate."

*

W. Ray Bell, president of Cotton Textile Merchants of New York added another argument. U.S. officials must press harder toward their announced goal of persuading foreign nations to relax their restrictions against American textile exports, he said. "One-sided tariff bargaining," in Bell's view, has caused the balance between textile exports and imports to slip from plus $182 million in 1954 to minus $201 million in 1959.

*

Another major point--on which all domestic producers agree--is that America should not offer any new tariff cuts on textile products. In fact, some witnesses favored replacing current tariff structures on certain products with import quotas. The question that remains: How effective will the industry's case be? Probable answers: (1.) No new textile import restrictions are likely any time soon; (2.) but U.S. negotiators at the GATT session will probably be instructed not to bargain any lower U.S. tariffs rates on a long list of products--including cotton and woolen cloth.

*

Although many textile manufacturers think the "offer list" is already too long, government officials say that many cottons and woolens have been left off the list, which will be pared down even further before American negotiators go to Geneva for the GATT session in January.

Go
BUTTERWORTH
young man!

(audio)
If you handle a continuous web of textiles...

(audio)
You can . . . wash it

(audio)
. . . print it

(audio)
. . . emboss it

(audio)
. . . coat it

(audio)
. . . guide it

(audio)
. . . mercerize it

(audio)
. . . wet it

(audio)
. . . bleach it

(audio)
. . . dry it

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. . . cut it

(audio)
. . . wind it

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. . . stretch it

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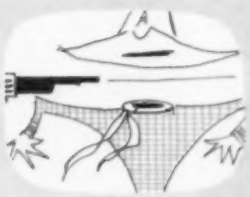
. . . shrink it



(audio)
. . . dye it

(audio) **All in Butterworth Machines**

Go **BUTTERWORTH** young man!

H. W. BUTTERWORTH & SONS COMPANY
Division of Van Norman Industries, Inc.
BETHAYRES, PA. • SINCE 1820

In the South: Industrial Heat Engineering Co., Greenville, S. C.
In the North: United States Supply Co., E. Providence, R. I.

NEWS BULLETIN...

SINGER* diversifies into tufting machine manufacture

–acquires COBBLE BROTHERS

Cobble Brothers Machinery Co., Inc., and Cobble Brothers Sales Co., Inc., Chattanooga, Tenn., major manufacturers and distributors of tufting machines and carpet finishing equipment have been acquired by The Singer Manufacturing Company. Acquisition includes Cobble subsidiaries Super Tufter Machinery Co., of Fort Oglethorpe, Ga., Gowin Machinery Company of Dalton, Ga., Southern Machine Company of Chattanooga, and Cobble Brothers Machinery Co., Ltd., of Blackburn, Lancashire, England. As Singer-Cobble, Inc., the new firm will operate as a subsidiary of The Singer Manufacturing Company under the direction of Singer's Special Products Division.

MANAGEMENT. Lewis Card who has served as Cobble's Treasurer and General Manager for a number of years, will continue active direction of the company.

HEADQUARTERS. Continue unchanged: Riverside Drive, Chattanooga, Tenn.

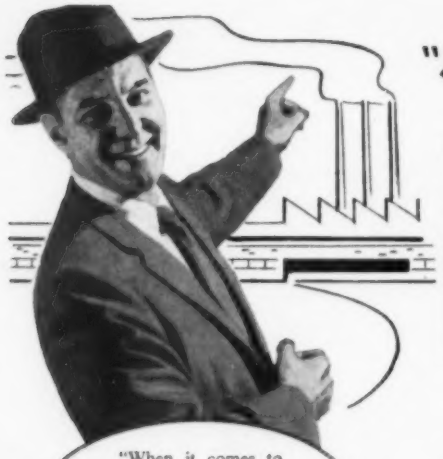
2881

THE SINGER MANUFACTURING COMPANY

149 BROADWAY • NEW YORK 6, NEW YORK

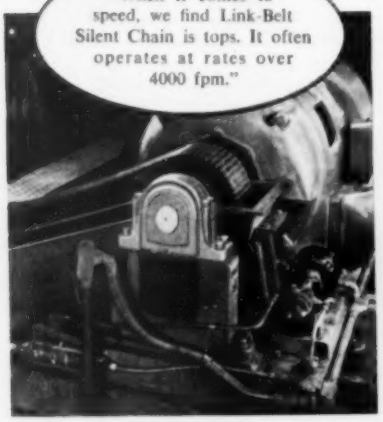
Manufacturer and distributor of SINGER sewing machines for home and industry since 1851

*A Trademark of THE SINGER MANUFACTURING COMPANY

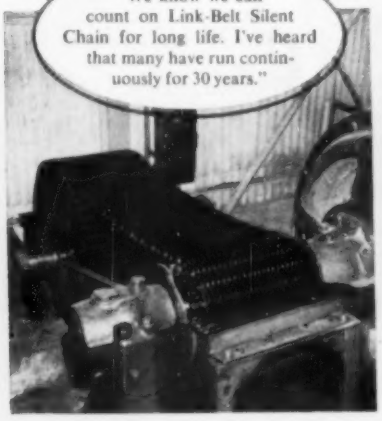


"Join me on a plant tour . . . see why

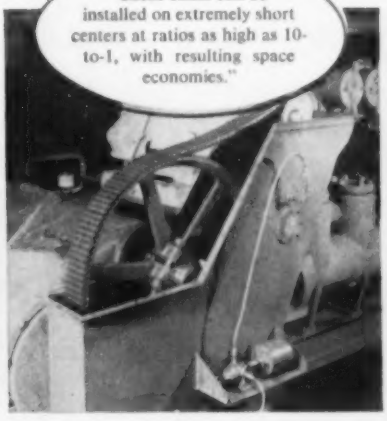
we're modernizing our drives with Link-Belt Silent Chain"



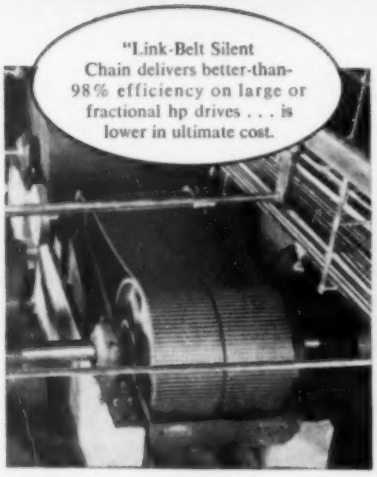
"When it comes to speed, we find Link-Belt Silent Chain is tops. It often operates at rates over 4000 fpm."



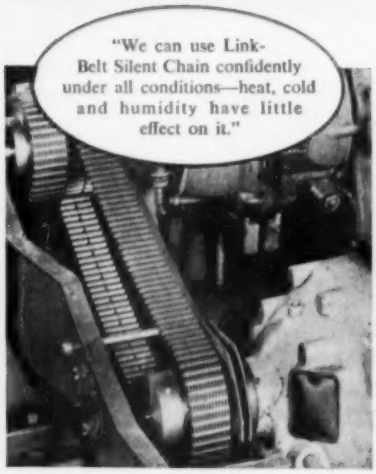
"We know we can count on Link-Belt Silent Chain for long life. I've heard that many have run continuously for 30 years."



"Silent chain can be installed on extremely short centers at ratios as high as 10-to-1, with resulting space economies."



"Link-Belt Silent Chain delivers better-than-98% efficiency on large or fractional hp drives . . . is lower in ultimate cost.



"We can use Link-Belt Silent Chain confidently under all conditions—heat, cold and humidity have little effect on it."

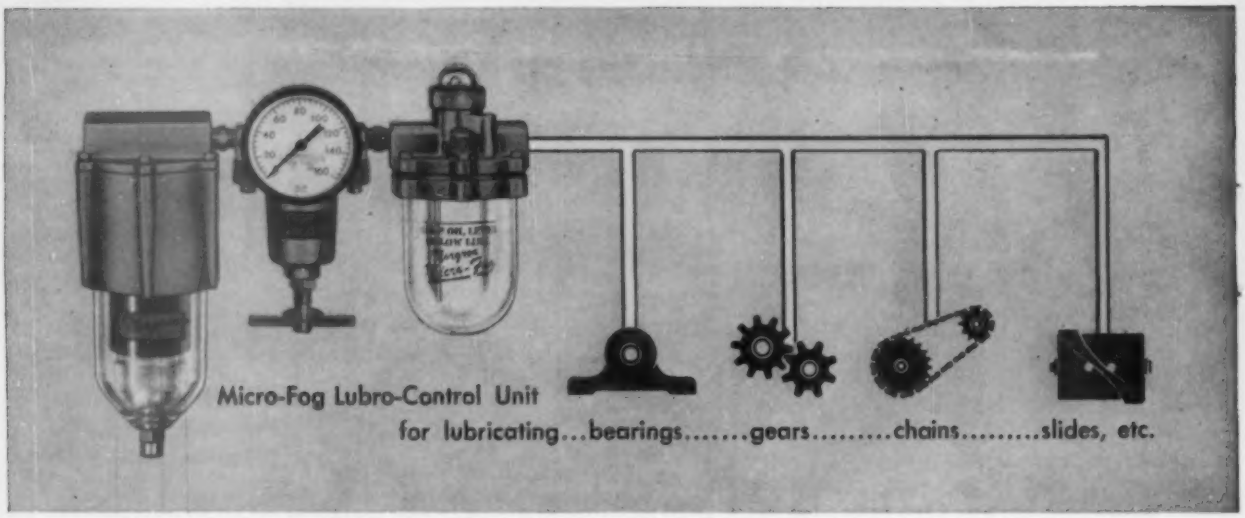
"In close quarters, Link-Belt Silent Chain is ideal. It's easy to assemble . . . permits built-in drives, compact housings."

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

FULL DETAILS on Link-Belt Silent Chain are offered in 88-page Book 2425. Get your copy from your Link-Belt office or authorized stock-carrying distributor. Look under CHAINS in the yellow pages of your phone book.

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Warehouses, District Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World. 15042



Norgren MICRO-FOG LUBRICATION

Automatically lubricates every bearing surface on a machine

About 10 years ago, a new type of oil fog lubrication, called Micro-Fog was marketed by the C. A. Norgren Co. More and more machine tools are being completely lubricated with Micro-Fog—all bearings, gears, chains, slides, ways.

With any method of lubrication, the only oil that actually lubricates is the thin film that separates the bearing surfaces. Any additional lubricant is a waste and may even be harmful, causing overheating through fluid friction.

An air-borne fog of extremely small oil particles is created by a Norgren Micro-Fog Unit. This Norgren Micro-Fog can be conveyed long distances through low pressure pipelines directly to the bearing surfaces.

Micro-Fog provides thorough lubrication

At the bearing surfaces a nozzle-like fitting, called a reclassifier, causes the small dry oil particles to combine into larger wet particles. These impinge upon the bearing surfaces and cover them thoroughly and continuously with a protective film of oil.

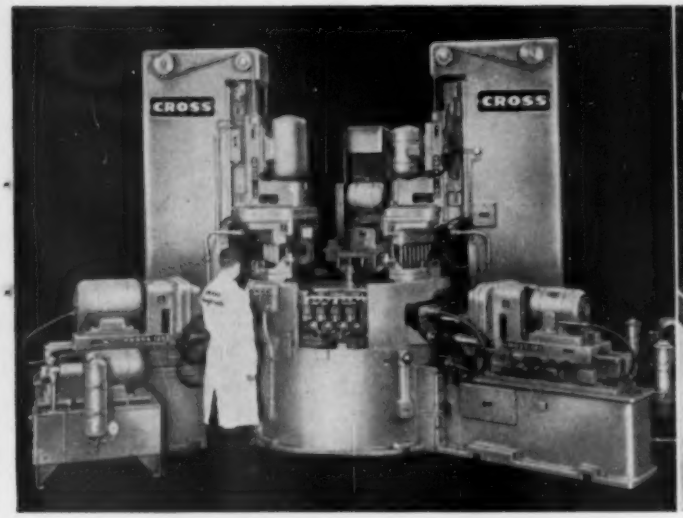
A Norgren Micro-Fog Lubro-Control Unit is a combination of three Norgren Units—an air line filter to remove the compressed air contaminants, a pressure regulator to accurately control pressure and a Micro-Fog Lubricator.

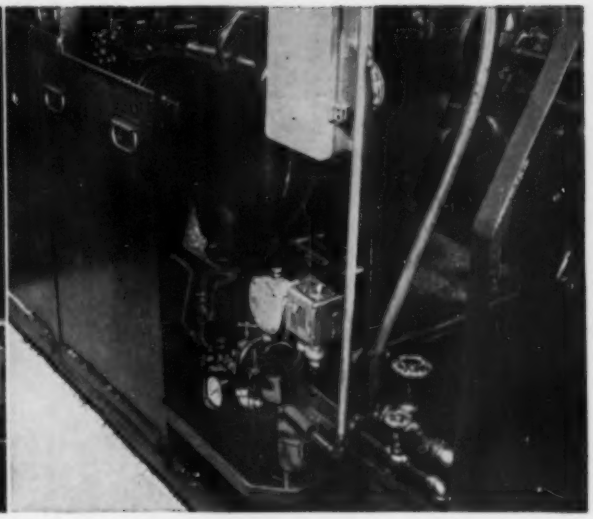
Norgren Lubro-Control Units are adjustable to deliver automatically just the right amount of Micro-Fog to provide continuous lubrication.

A few of the benefits provided by Micro-Fog:

Longer bearing life. Reduced downtime, maintenance and bearing replacement costs. Lower bearing temperatures. Less lubricant used—lower lubricant costs. Centralized lubrication, eliminating time-consuming hit and miss methods. No excess of lubricant—minimum product contamination and easier housekeeping.

Today, Micro-Fog Lubro-Control Units are operating successfully on practically all types of equipment. These applications range from high-speed precision grinders, running at 450,000 rpm, to huge rolling mill bearings on shafts as large as 34" in diameter and turning at relatively slow speeds.



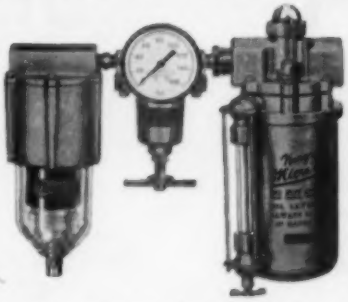


The 150 ball bearings and 70 spur gears on this machine are lubricated by a single Norgren Micro-Fog Lubro-Control Unit. Results: 1. Bearing and gear box seals eliminated. 2. Oil leakage of lubrication system eliminated and safer floor conditions around machine. 3. Oil usage greatly reduced.

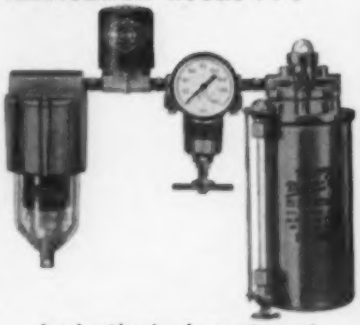
With Norgren Micro-Fog, ½ pint of oil per day does a better job of lubrication than the 15 gallons of oil used per day with the previous circulating system. On this automatic screw machine, the Norgren Micro-Fog Unit lubricates sleeve bearings, anti-friction bearings, slide blocks, guides, chucking mechanism and gears.

Wide selection of Norgren Units meets most machine lubrication needs . . .

Small, compact units for use where space is tight.



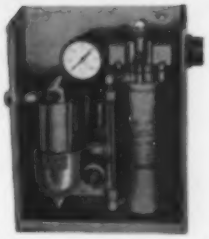
A Norgren Lubro-Control Unit can be made up of any combination of Norgren filter, regulator, lubricator.



A solenoid valve for starting and stopping lubrication as machine is turned on and off can be incorporated as part of a Lubro-Control Unit.

This Lubro-Control Unit is small, compact and complete with filter, regulator and lubricator. It measures only 6 1/32" x 6 1/32" x 5 3/16".

Compact and complete, this Norgren Unit includes automatic alarm controls that safeguard the machine against lubrication failure.



This cabinet unit can be entirely enclosed and locked. It is compact and complete and is equipped with automatic alarm controls.

The above is only a partial listing of the complete Norgren line. For complete information on the large selection of Norgren Micro-Fog Lubro-Control Units available, ***WRITE FOR DESCRIPTIVE LITERATURE***

FOUNDED 1926

C. A. NORGREN CO.

SO. ELATI STREET ENGLEWOOD, COLORADO

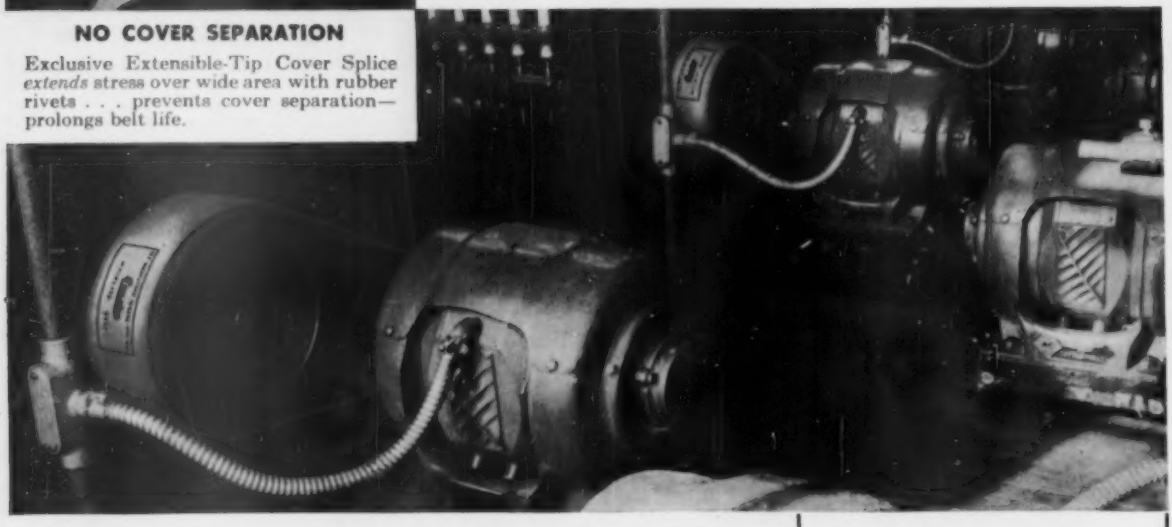
1602

CONDOR *Whipcord* BELTS

OUTLAST *3 to 10* ORDINARY BELTS

NO COVER SEPARATION

Exclusive Extensible-Tip Cover Splice *extends* stress over wide area with rubber rivets . . . prevents cover separation—prolongs belt life.



Here's the all-purpose belt designed for hard wearing installations—ideal for drives with short centers and small take-up, small pulleys and reverse bends, high speeds and heavy loads at high tensions. Condor Whipcord Belt features an endless-wound, sealed-in cord construction which is prestretched during manufacture.

Extremely flexible, Condor Belts also offer exceptional advantages where serpentine drives supply power for several operations. They won't shrink and are virtually unaffected by atmospheric changes. And Condor's exclusive Extensible-Tip cover splice and rubber rivets dissipate stress when rounding pulleys . . . eliminate cover separation.

The results? Condor Whipcord Belts outlast as many as 10 ordinary belts on the toughest drives! Let an R/M distributor help you select the belt engineered to give *you* "More Use per Dollar."

ADVANTAGES

- **For High Speeds, Heavy Loads, Short Centers, Small Pulleys, Reverse Bends . . . at High Tensions**
- **Low Inelastic Stretch**
- **Length Unaffected by Atmospheric Changes**
- **Extremely Flexible and Strong**
- **No Ply Separation. No Splice in Tension Member**
- **Selection of Driving Surfaces to Meet Tension Requirements**

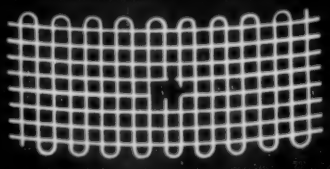
"MORE USE PER DOLLAR"

ENGINEERED RUBBER PRODUCTS ..."MORE USE PER DOLLAR"

RM1052

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY



UNIONMATEX

INGOLSTADT:

MAK:

SCHLAFHORST:

SUCKER:

THIES:

ASTRA:

KLEINEWEFERS:

MONFORTS:

UNIONMATEX

T. B. Blackwell, Overseer of Spinning, Arcade Cotton Mill Division of Mount Vernon Mills, Rock Hill, South Carolina, discusses yarn quality with Armstrong representative Wayne Downs.

Minimize spinning problems, produce top-

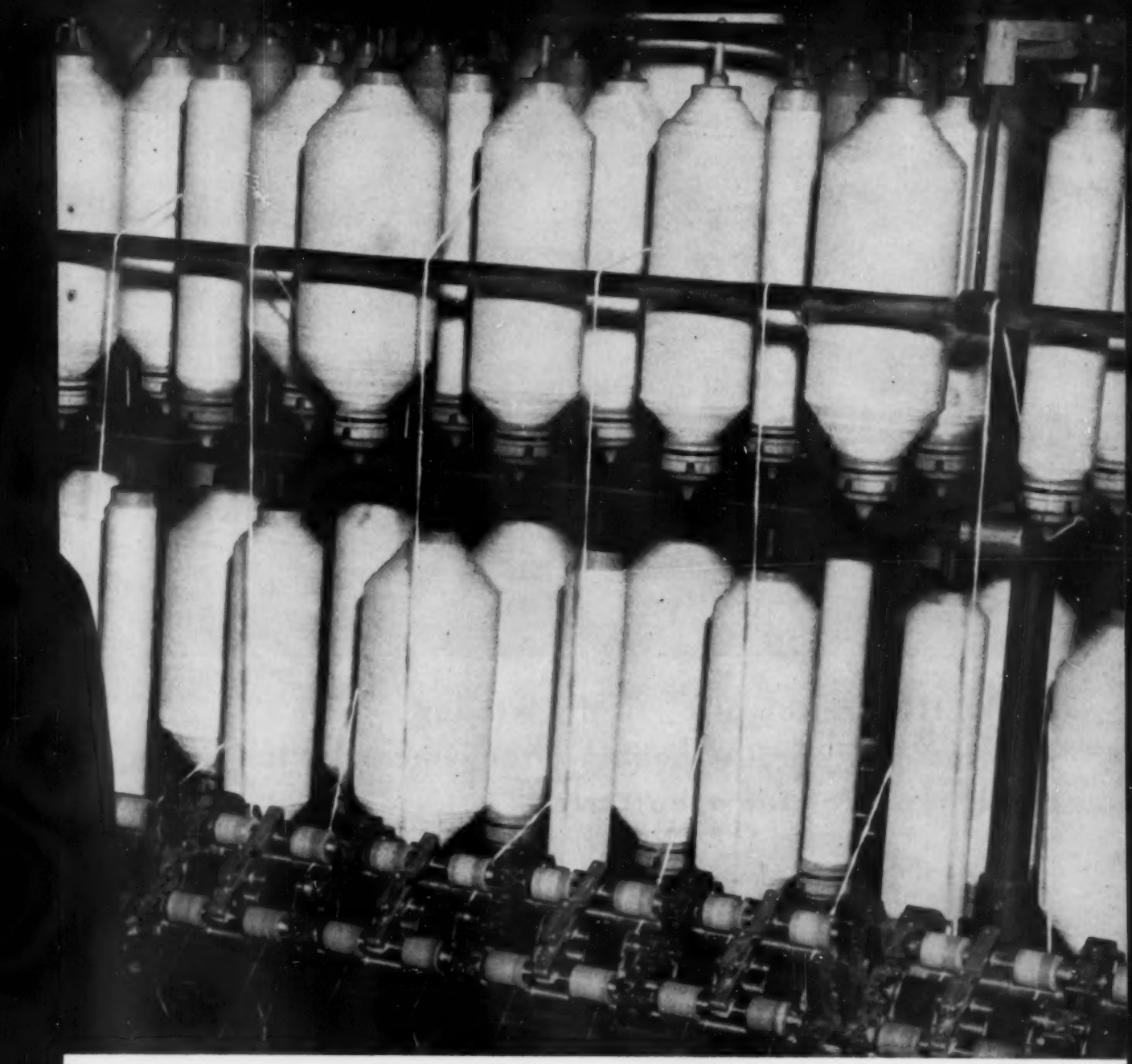
Modern high draft frames are designed to deliver maximum production of high-quality yarn. And the right spinning cots can help them do just that.

If front roll lap-ups . . . excessive eyebrowing . . . or yarn irregularities are reducing production or hurting yarn quality, a switch to Armstrong Accotex Cots may be the answer.

Accotex Cots are made of compounds that are especially engineered to combat these common spinning problems. New anti-static cots have cleared up stubborn front-roll lapping in many mills.

In other mills, Accotex NC-762, another anti-static material, has stopped serious eyebrowing on spinning and roving frames with flat clearers. In addition, many mills report substantial reduction in total waste where NC-762 Cots are used.

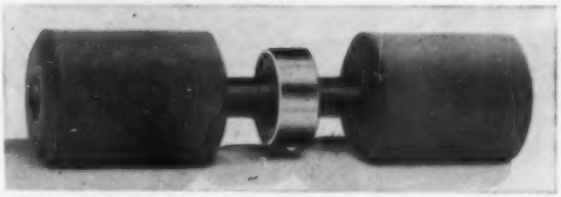
On some drafting systems, a softer cot compound often helps to reduce yarn irregularities and improve break



quality yarns with Armstrong Accotex Cots

strength. The Accotex line includes soft compounds for service on these frames.

Whatever your spinning problem, it's a good idea to talk things over with your Armstrong man. Chances are he can suggest an Accotex Cot that will meet your specific need. Call him, or write for more information to Armstrong Cork Company, Industrial Division, 6509 Dauphin St., Lancaster, Pennsylvania. Armstrong textile products are available throughout the world.

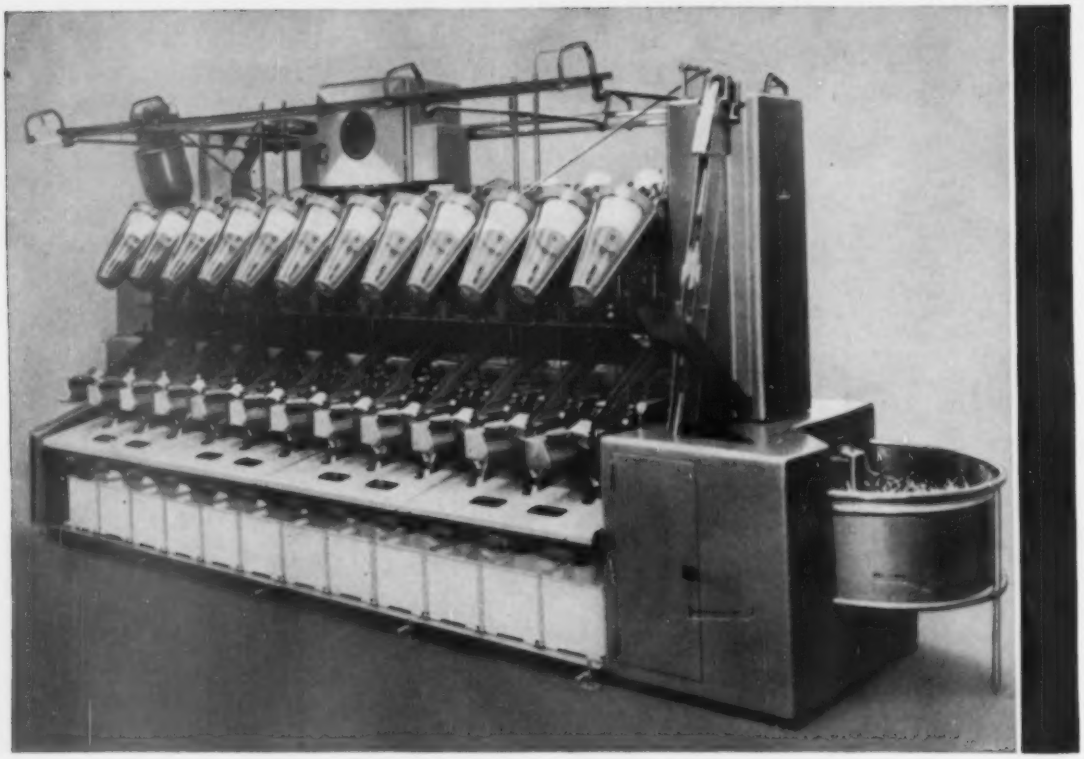


Armstrong

ACCOTEX COTS

1860-1960 - Beginning our second century of progress

CIRCLE 29 ON READER SERVICE CARD



SCHWEITER Automatic Filling Winder with the new parallel bobbin arrangement for the filling of all types of loom batteries

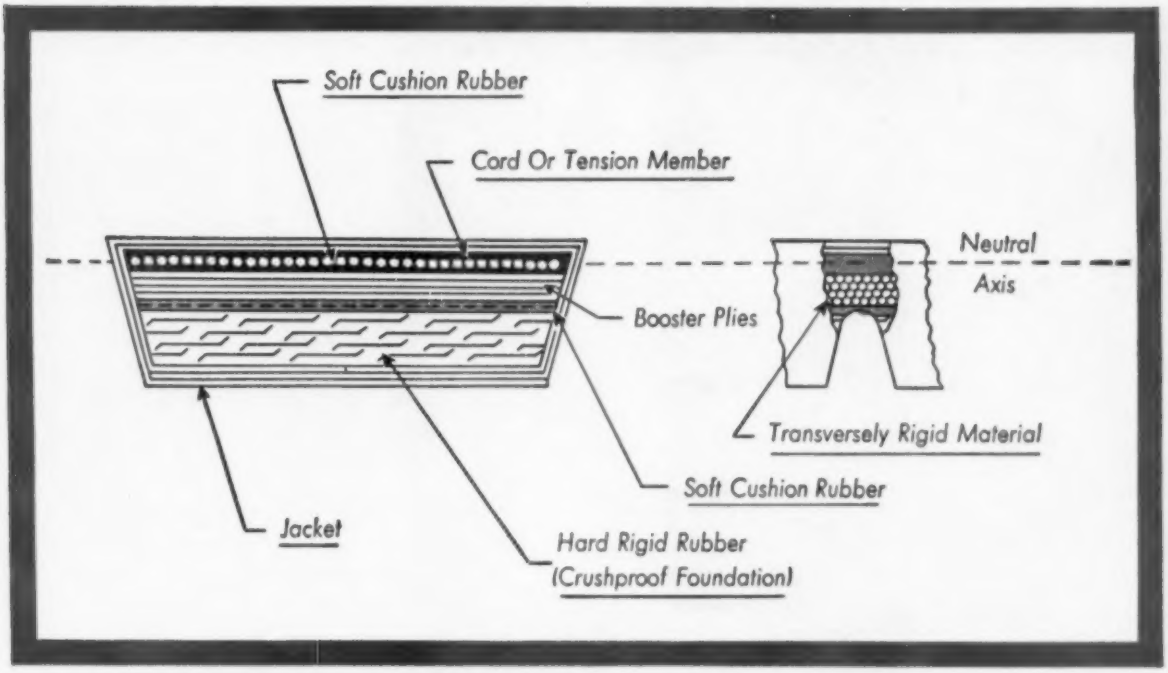
Our latest model
Automatic Filling Winder,
type MSL:

- with Dust Exhaust system
- with Parallel Bobbin arrangement– regular, or double size, boxes can be used
- equipped with ROTOR – for building Tailless Bobbins
- with, or without, Interlocking Tip Bunch for Automatic Loom Box loading

SCHWEITER LTD.
HORGEN (Zurich) Switzerland

Manufactured by **WHITIN MACHINE WORKS**, *Whitinsville, Mass., (U. S. A.) for sale in U. S. A. and Canada*
Manufactured by **SCHWEITER** *for sale in other countries*

US RUBBER ROYAL VARIABLE SPEED BELT from the *Power Unlimited* complete belt line



HERE'S WHY THIS VARIABLE BELT IS NON-SQUASH, NON-SAG

No excuse for any more variable speed belt problems. The U. S. Royal Variable Speed Belt will lick any production problem – where other belts try and fail.

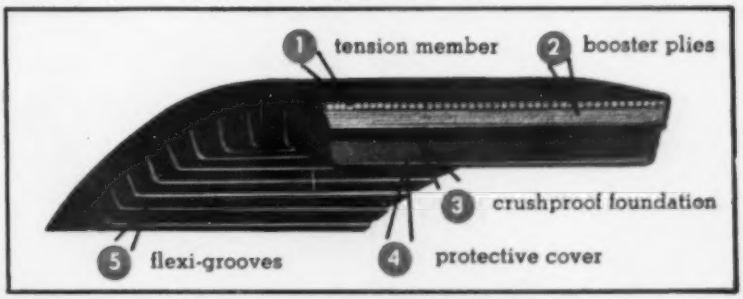
Note in the diagram the use of hard rigid rubber – the soft cushioning rubber in which cords or tension members are imbedded – the special jacket (oil and heat resistant).

The exclusive and complete crosswise rigidity in U. S. Royal prevents squashing. Lengthwise stretch is just about zero, by every test. *No sagging.*

U. S. Royal has complete accuracy regardless of speed changes – whether you switch from 2000 rpm to 10. It has scored a complete success in every textile mill, pulp and paper mill, chemical plant and metal working plant in which it has been installed.

• • •

Your nearest "U.S." Power Transmission Distributor will be glad to demonstrate the U. S. Royal on your own drives, at your own plant. You'll save a great deal in replacement costs and down goes downtime.



US RUBBER Mechanical Goods Division VISIT BOOTH NO. 317, S.T.E., OCTOBER 3-7

United States Rubber

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

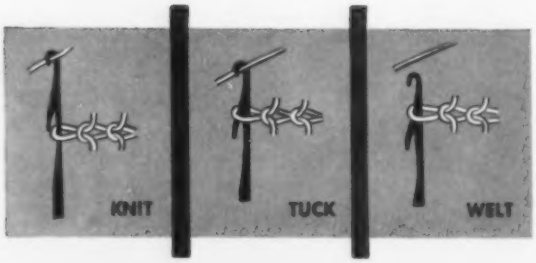
Rockefeller Center, New York 20, N.Y. In Canada: Dominion Rubber Company, Ltd.

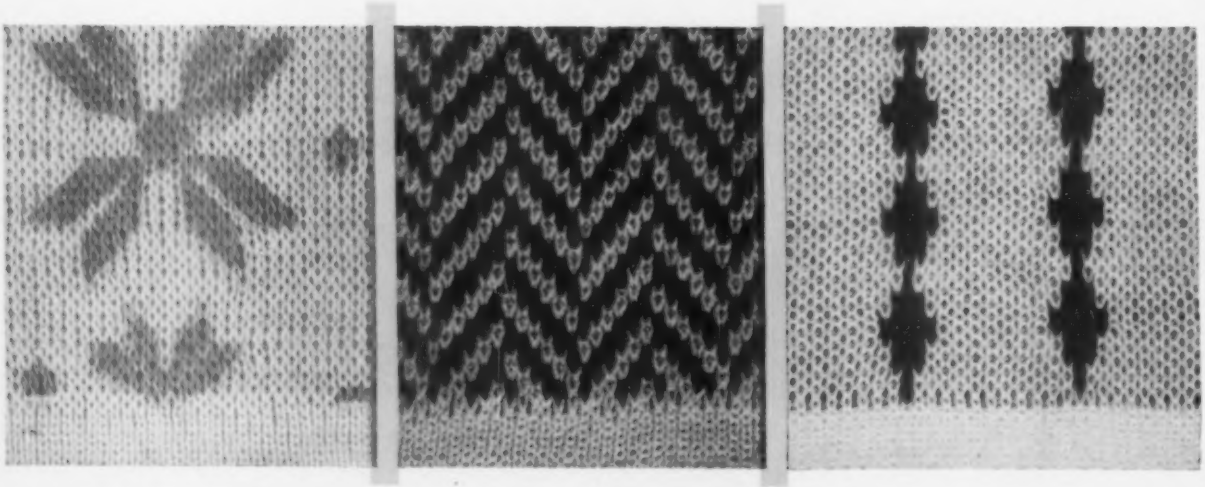
Announcing!

The

A Startling NEW MACHINE For The Sweater Trade

In fine or semi-bulky gauges—(8 thru 14 needles per inch.)





Some other Models in the Supreme Line Of Profit-Knitting Machinery—

MODEL MJ/N Wide Diameter & Body Size Jersey

MODEL ROF/N Jacquard-Type Floatless Patterns

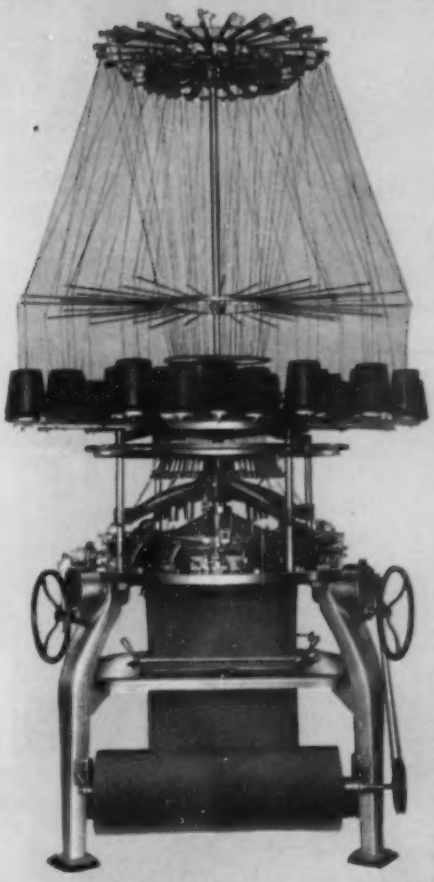
MODEL SAAF-C/N Plain, Variable Striped and Patterned Jersey

MODEL IRW-2 Patterned or Plain Rib or Interlock

New SUPREME

BRW-3

- Contains 3 Position Pattern Wheels for knit, tuck and welt positioning on all cylinder feeds.
- Produces enormous variety of self-patterns, multi-color designs—automatic stripes and combinations of the above . . . and enables creation of original patterns and designs which can be produced at unprecedented high production rates.
- Knits 1 x 1, full cardigan and half cardigan sweater fabrics with attached trim and draw thread separation. Separation knit without welt cast-off, making fabric especially suitable for brushing and napping.



Standard Equipment

30" Diameter

16 Feeds

3 Position Pattern Wheels on all cylinder feeds.

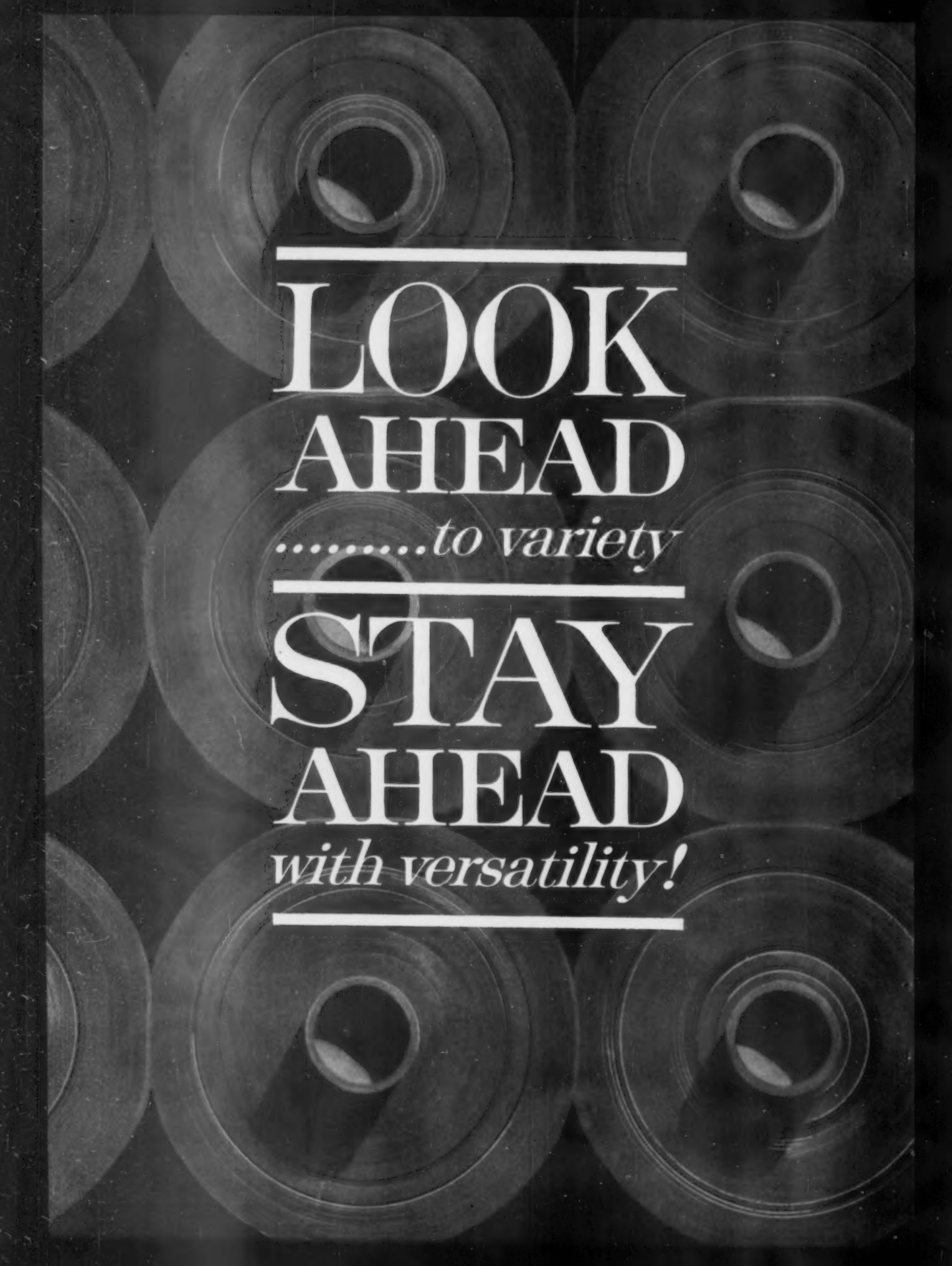
4 Color Striping Boxes on 9 feeds (Available on all feeds upon special order).

Independent tight-loose controls on all cylinder and dial feeds.

For further information, contact Supreme or Morris Kaplan Co., Exclusive Sales Agent in U.S. and Canada, 6 Stanwix St., Brooklyn 6, N.Y.

SUPREME
KNITTING MACHINE CO., INC.
94-02 104th STREET, OZONE PARK 16, N.Y.
Southern Representative and Showroom
Monroe Machinery Sales Co.
P.O. Box 342, MacArthur Circle Monroe, N.C.

MODEL SAI-PP Striped and Patterned 1 x 1 Rib Also Swiss Rib and Interlock MODEL MLVP/N Pile, Loop, Plush, Plaited Patterned and Velveteen
MODEL BRW 1 x 1 and Half Cardigan Plain & Patterned Bulky Fabrics


LOOK
AHEAD
.....to variety
STAY
AHEAD
with versatility!

Weave rooms best equipped for the variety of fabrics woven today are those to which UNIFIL® Loom Winders have brought new versatility.

UNIFIL Loom Winders permit the use of a wider variety of filling yarns: natural and man-made; spun, filament and textured. They enable single-shuttle weave rooms to switch filling yarn from one count to another, from one fabric to another, as quickly as style change demands — and at no extra cost. By eliminating several operations they drastically reduce inventory and production planning, work scheduling and employee training.

For these and many other reasons, leading textile manufacturers consistently reorder UNIFIL Loom Winders. Because of its unmatched versatility, UNIFIL allows mills to wind from any filling supply economically. Quills are wound and shuttles loaded, empty quills stripped and returned for rewinding . . . all automatically, right at the loom.

Learn how UNIFIL Loom Winders' inherently better method of filling yarn preparation can help you get ahead today and stay ahead tomorrow. Call your nearest Leesona Sales Engineer — in Boston, Philadelphia, Charlotte, Atlanta or Los Angeles. Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, R. I.

Some of many modern mills that are looking ahead — with **UNIFIL** *Loom Winders.*

ABDON TEXTILES, INC.
AMEROTRON COMPANY
BAY STATE MILLS
BEMIS BRO. BAG CO.
BERNSON SILK MILLS
BLOOMSBURG MILLS, INC.
BRUCK MILLS, LTD.
CADILLAC TEXTILES, INC.
CANNON MILLS CO.
CHRYSLER MILLS, INC.
CONE MILLS CORP.
DOVER MILL GROUP
ERLANGER MILLS, INC.
FRANK IX & SONS
GERRISH-MILLIKEN MILL
GREENWOOD MILLS
JAUNTY FABRICS CORP.
KALCO WEAVING CORP.
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RIEGEL TEXTILE CORP.
SCHNEIDER MILLS
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STANWOOD MILLS, INC.
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STRASBURG TEXTILE MILLS
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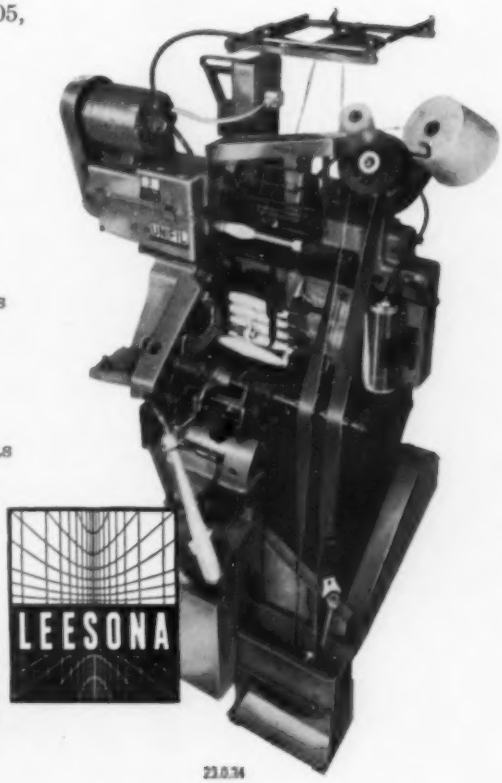
WELDON MILLS, INC.



23.0.34

Visit LESSONA at Greenville Southern Textile Exposition
Booth 810—October 3-7

ADAPTABLE

The CHAMELEON — symbol of adaptability to changing conditions

is the word for . . .
WHITIN CHANGEOVERS

. . . and they certainly are — adaptable to your needs and to your pocketbook! This is the simple success story of the Whitin line of spinning changeovers. Simple Conversion or a full scale Changeover — you have a wide choice of the *right* equipment — at the *right* price!

Whether your needs require an outlay of one, five, or fifteen or more dollars per spindle, you have the assurance that dollar for dollar you could not make a better investment toward improving both your product and your competitive position.

The drafting zone is the *profit* zone. The performance and efficiency of its elements are vital to profitable operation. Replace outdated and worn elements, such as cradles, bands, rolls, nose bars, etc. New and modern Whitin drafting systems offer more complete and accurate control of the fibers in the main drafting zone. The uniformity and the breaking strength of the yarn is improved. Lubrication is minimized or eliminated and maintenance and cleaning problems simplified.

Double apron systems with either long or short bottom aprons are available in combination with several streamlined weighting arrangements. Ball-bearing top rolls provide thousands of hours of trouble-free, worry-free production. Antifriction bottom rolls may be specified, as well as roll stands in several different angles of incline.

A staff of trained changeover specialists are at your service at our Charlotte Division, Charlotte, N. C. Upon request they will be glad to survey your equipment, examine your needs, and recommend exactly the changeover that is *right* for you.

WHITIN

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Don't miss "Changeovers in Action" in our Booth No. 819 Annex 4 at the S.T.E., Greenville, S. C.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

THE JSD . . .
FOR 24 FEED
YARDGOODS JACQUARD PRODUCTION

WITH UNLIMITED PATTERN RANGE For yardgoods production of Jacquard knit fabrics . . . the Model JSD . . . 24 feeds . . . 24 Jacquard automats . . . 4 color yarn changers . . . 30″ diameter . . . up to 20 needles per inch. Piqué . . . Twill Back . . . Blister . . . Rib . . . Tuck . . . Two-Three-Four Color Welt Back Fabrics . . . Unlimited Pattern Range. Ideal for high production of unique fabrics. Ask for complete details on this new model, the JSD.

WILDMAN JACQUARD

WILDMAN JACQUARD CO. • 1210 Stanbridge St. • Norristown, Penna. • Manufacturers of HEMPHILL BANNER Knitting Machines

A subsidiary of Draper Corporation, Hopedale, Mass.

Let's put our heads together about the New Developments in Weaving

At Booth No. 139
SOUTHERN
TEXTILE
EXPOSITION

We are looking forward to seeing all of our friends at Greenville. Stop by and let us discuss the latest advancements in the art of weaving. We would like to give you a report on the new economies and improved quality that our fully automatic, all-electric, push button C-7 Looms are helping to make possible (the C-7, C-7S and C-7A) . . . plus further news of mutual interest about new developments in other C & K Looms.

CROMPTON & KNOWLES CORPORATION
C&K
WORCESTER, MASS. U.S.A.

Manufacturers of the World's Longest Line of Automatic Box Looms

Charlotte, N.C. • Allentown, Pa. • Crompton & Knowles, Jacquard Supply Co., Pawtucket, R.I. • Crompton & Knowles of Canada Limited, Montreal, Que.

"Más Grande" "Ausgezeichnet"

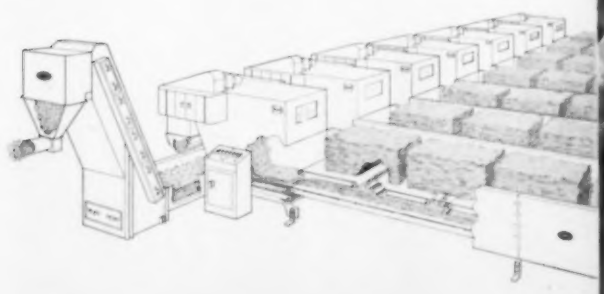
However They Said It... Exhibition Visitors Rated These New HUNTER Developments

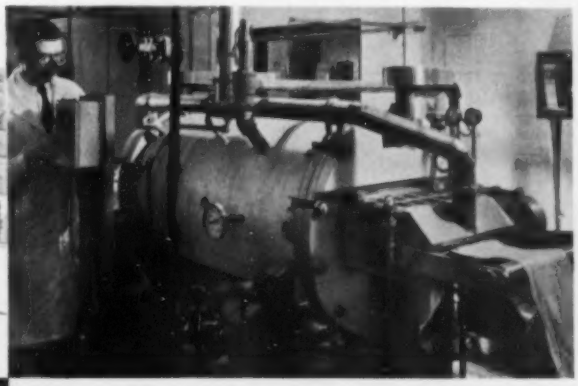
"Magnifique" "Bravissimo"

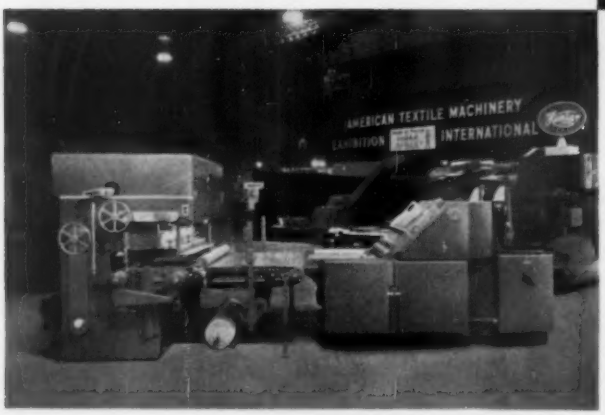
This is the equipment being discussed today . . . in a dozen different languages . . . by visitors to the American Textile Machinery Association-Exhibition International. These new developments, unveiled in Atlantic City, brought the crowds to Hunter, leader for over a century in research . . . engineering . . . and development of machinery for the textile industry *exclusively*.

"TOPS"

They spell *progress* in textiles . . . and offer new opportunities to improve product quality, lower production costs, increase profits. That's why these new machines already figure importantly in the future plans of textile men throughout the world. Be sure to see us in the Fall at the Southern Textile Exposition in Greenville.







For Cotton Blending

NEW! HUNTER MULTI-TUFT BALE BLENDER fully automates the opening room. It pre-opens and evenly mixes all bales in a grade, to improve uniformity, prevent short-term variation, save the cost of inefficient opening room labor. Reduces ends down in spinning, improves yarn quality, introduces complete blend control.

For Wet Processing

NEW! HUNTER PRESSURE-LOK permits high-temperature processing of continuous cloth webs. A major breakthrough in this field, it assures continuous processing pressures of 50 pounds. The **PRESSURE-LOK** introduces an unlimited potential in desizing, bleaching and dyeing of natural and synthetic fabrics.

For Non-Wovens

NEW! HUNTER WEBFORMER for improved random webs. Simplified design reduces maintenance, eliminates close-tolerance adjustments. Exclusive features speed production, prevent web damage. **THE HUNTER FIBER/LOCKER** is scientifically-engineered for high-speed, vibration-free needle felting of natural and synthetic fibers in a selection of widths and needle board patterns.

JAMES HUNTER

JAMES HUNTER MACHINE COMPANY • NORTH ADAMS, MASSACHUSETTS

Subsidiaries: *James Hunter, Incorporated, Mauldin, S. C. • Hunter Controls, Mauldin, S. C. • Hunter Fiber Machine Company, Los Angeles, Cal.*

You get additional operating profits with Built-in Economy Features of BAHNSON COLLECTO-VAC

You can plan for additional operating profits with the extra quality design features of Bahnson's Collecto-Vac for collecting broken ends, lint and fly. Its anodized aluminum flutes neither crack nor warp, thus eliminating replacement costs . . . its rugged all-steel collection box provides durable service indefinitely . . . its scroll type fan gives maximum air handling, helps air distribution in the room by dispersing motor alley heat . . . it has quick, easy access for maintenance.

Collecto-Vac's superior construction enables it to reduce ends down more efficiently, to minimize slubs and gouts, to keep frames and room cleaner. Ask any mill man who has Bahnson Collecto-Vac. Fill in the coupon below for free informative bulletin.

Clip coupon to letterhead. Mail today for Free Illustrated Bulletin 30A.

Name_____

Bahnson

AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.

Better Foot Forward

NOT LONG AGO, in some rambling conversation across his desk, a sensitive and knowledgeable observer of the textile industry took this line:

"What our industry needs more than anything else right now is a little bragging on itself. It has talked 'poor mouth' so long and loud that lots of people think there's little good or little strength in it. The truth is, the textile industry has a lot to brag about The public ought to know the real story."

We couldn't agree more. This industry *does* talk "poor mouth"—loud and often. Most recent example (we cite it only because it's the latest symptom of the melancholia that afflicts the industry) is the lamentable portrait that industry spokesmen felt compelled to paint in their drive for higher tariffs on imports. They had the difficult task of making that story stick in the face of a stream of glowing earnings reports across the industry. Though they lost their case before the Tariff Commission, they succeeded all too well in putting their story across to the public. Why? Because they told such a convincing story that many a person today believes the textile industry is tottering on the brink of ruin. Somehow, we believe, industry spokesmen could have made just as persuasive a case—maybe even more persuasive—if they had led more from strength and less from weakness. That way, at least the public would have wound up with a better image of the industry.

Why worry about the industry's image? About the melancholia that creates it? Because this melancholia exacts a price. It's responsible for the jaundiced eye with which a banker greets a mill owner in search of a loan—for the here-we-go-again slant that creeps into a newspaperman's report of a temporary softening in the gray-goods market—for the too-thin trickle of college students in textile engineering.

All this leads us to say we'd like to hear the industry tell a brighter, happier story about itself. We like to see it do more of what some other industries do. They put their best foot forward, though their back foot may be just as scratched and scarred as the textile industry's forward foot. The industries that put their best foot forward are the ones that get the glad greeting from the banker, enjoy a friendly press, and get the cream of the crop among young engineers.

How can the industry put its best foot forward? What can it brag about? The kind of bragging we have in mind doesn't require any double talk or falsification. The industry's achievements are real. And they're dramatic. New ones come to light every day. Take these, for example, picked at random from day-by-day news sources:

Cotton had a big year in 1959. Apparel uses reaches an all-time high of 4,405,000 bales. Total domestic mill use was 9,074,000 bales (vs. 8,090,000 in 1958).

Today's hosiery worker can produce a stocking in three-fourths of the time it took ten years ago.

Capital expenditures for textile machinery for 1960 will be 17 to 20% above the 1959 figure of $400,000,000. Could go as high as $500,000,000.

"Growth industry" is a phrase for textiles, too. Take tufted fabrics. Fifteen years ago they were a home-made roadside business. Last year cotton tufted bedspreads alone used up 102,700 bales; tufted rugs and carpets, 178,900 bales.

Exciting, favorable facts like these are always turning up in this industry. We'd like to hear more of them noised abroad. In fact, noising abroad the good things *you're* doing in *your* mill is TEXTILE WORLD's business, and we aim to come after the facts whenever we hear you've put something new and better to work.

Noising abroad those good things is *your* business, too. Your chances to do it come whenever you talk with your friends and acquaintances—newspaper editor, banker, dentist, or school superintendent. That's where the grass roots are. That's where you create your company's image, good or bad, strong or weak, and—in the long run—it's where you create the image of your industry.

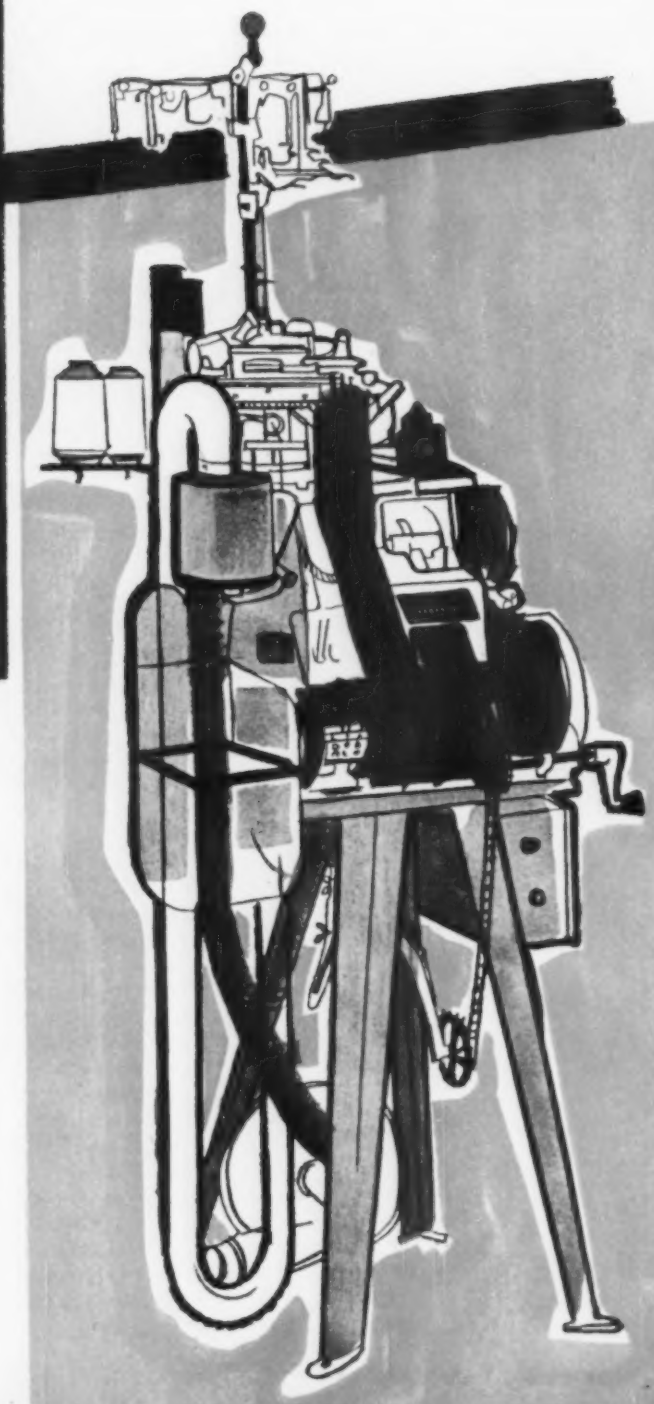
now

peak production

of the finest

seamless

nylon stockings



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"Reading-Booton"

twin-feed machine

- **2-feed automatic, highly efficient end trimmer. Trims all ends to a length of from ¼ to ⅜ inch.**
- **New high standard of fabric quality**
- **Continuous, high-speed production**

The new "Reading-Booton" Twin-Feed Machine opens new profit possibilities in the knitting of ladies' seamless stockings. It gives you twin-feed production, plus amazing simplicity of operation, and trouble-free performance.

New features developed by Textile Machine Works for the proven Booton Machine. This new precision machine belongs in your production planning. Backed by our world-wide service organization. You'll want to see the new "Reading-Booton" in operation before you buy any seamless machine. Call us today.

TEXTILE MACHINE WORKS

READING, PENNA.

CIRCLE 42 ON READER SERVICE CARD

PREVENTIVE MAINTENANCE

• WHY YOU NEED IT
• WHAT IT CAN DO

Chatham Mfg. Co. is counting big gains today from maintenance that goes into high gear before there's any sign of trouble. A similar program could be just the thing for your mill. Could banish production worries before they have a chance to begin, help put a stop to soaring costs.

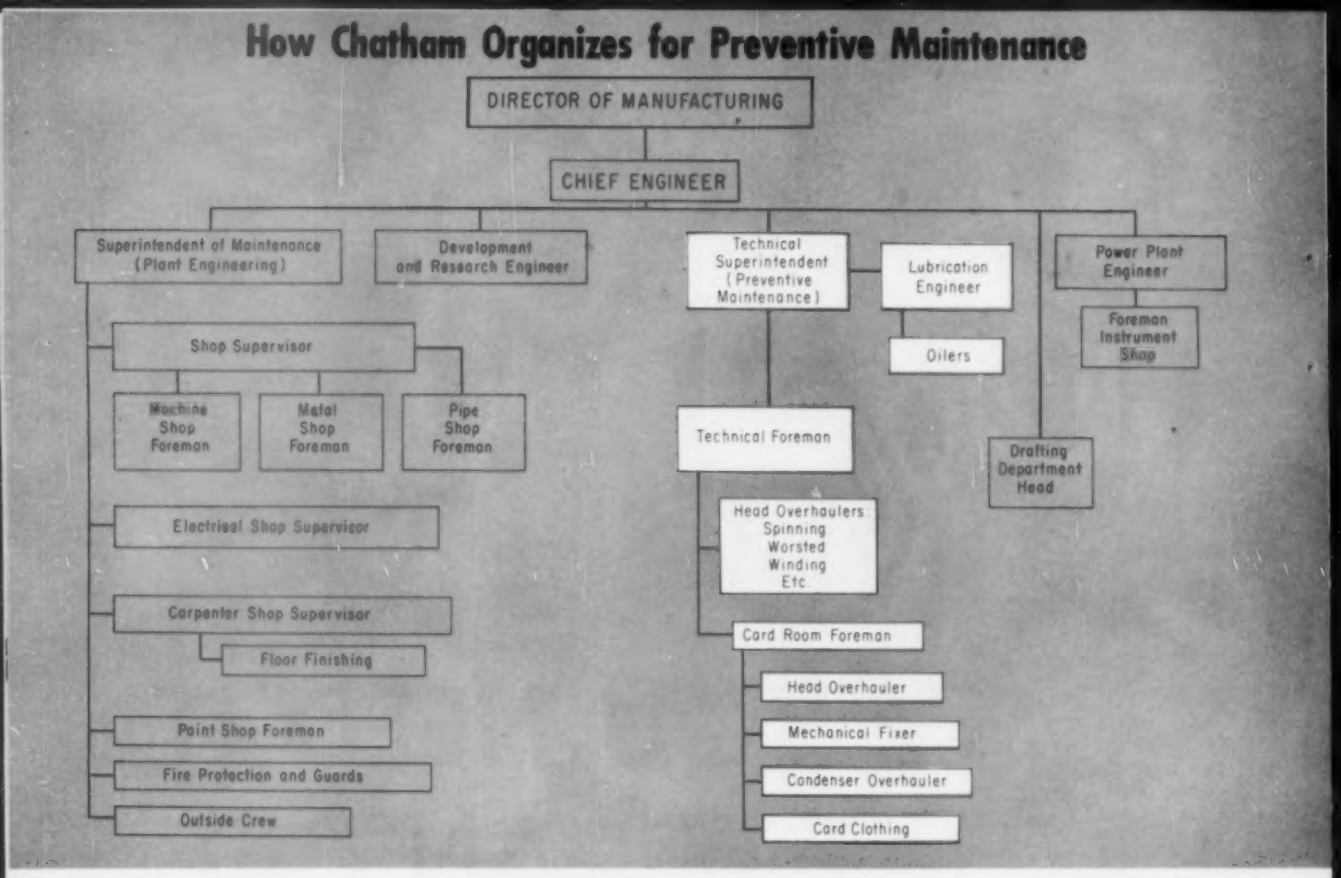
By RICHARD B. PRESSLEY
Senior Associate Editor, Textile World

HOW WOULD you like to start up your mill Monday morning and be serenely sure it would run through the week—and the month—without a breakdown of machinery?

That's exactly what mill executives and department heads do at Chatham Mfg. Co., Elkin, N. C. The have shucked off all their worries about their machines and equipment.

What sets them up this way? It's the almost flawless mechanical condition of all production machines and service equipment in the mill. This achievement has its roots in a preventive maintenance (PM) program that first began to take shape five years ago. Today, with a PM program that still grows every day and still welcomes new ideas, Chatham adds up its gains many ways.

Take spinning alone, for example. Granted, a hard-driving campaign by the Waste Control Department and the Quality Control Department, and on-top-of-the-job work by the Standards Department has played its role in progress, PM



KEY TO PM is tight organization. PM is handled by technical superintendent. (Superintendent of maintenance, despite title, functions as plant engineer.) Oilers (under lubrication engineer) are front-line personnel in PM program.

also claims its share of the credit for the following impressive gains in spinning:

- **A 15% increase** in frame speed, with yarn of the same high quality as before.
- **A rise of 18%** in production per frame.
- **A reduction of over 50%** in the total number of people who do mechanical and quality-control work in the mill.
- **A cut of 70%** in downtime chargeable to equipment breakdowns. (In fact, this 70%-reduction figure holds up pretty well across the board in all departments that are served by the technical superintendent and his PM program.)
- **A reduction of 30%** in mill waste.
- **A 50% cut** in ends down per 1,000 spindle hours.
- **A 10% reduction** in repair costs (including overhauling). This is actually 10% below the cost of repair parts before the start of today's systematic overhaul schedule. As modernization spreads throughout the mill, these costs are dropping still lower.
- **A $10,000 slash** in annual electric power costs.

WHAT MAKES IT GO

At Chatham, Chief Engineer Claude B. Hart is top man in PM for most production machines and service equipment. He's also responsible for maintenance of buildings and facilities. This means that department heads don't worry any more about machine or service breakdowns, because inspection, overhaul, and repair are jobs for the Engineering Department. Fact is, the Engineering Department itself doesn't worry any more—because PM now runs so smoothly that emergencies seldom occur.

Chatham is an integrated woolen operation. The main plant spins yarns, weaves, and finishes goods. There's an almost-new worsted mill adjoining. Fibers run are woolen, worsted, cotton, and man-made. Fabrics produced are blankets, women's apparel, and auto upholstery. Also some carpet sales yarns are produced.

There's over 1-million square feet of manufacturing floor space in the main plant. It houses 460 Crompton & Knowles looms and 12 Warner & Swasey weaving machines. The Engineering Department maintains machines in the following departments: scouring plant, raw-stock processing, garnetting, carding, spinning, winding, warping, stock dyehouse, piece dyeing, and wet finishing.

That leaves the following departments of the main plant outside the PM operations of the Engineering Department right now: weaving, cloth room, napping, and binding. But Engineering has its plans pretty well laid for taking over PM in these departments gradually.

In the adjoining worsted mill, the Engineering Department runs PM for all machines and equipment.

The organization chart (above) shows where PM fits into Chatham's scheme of things. The chief engineer (that's Claude Hart) is in

PM AT WORK . . .

. . . IN THE OFFICE. . . IN THE SHOP

1. LUBRICATION ENGINEER gives Form 1 to secretary, who combines several defects on Form 2, "Maintenance & Repair Request."

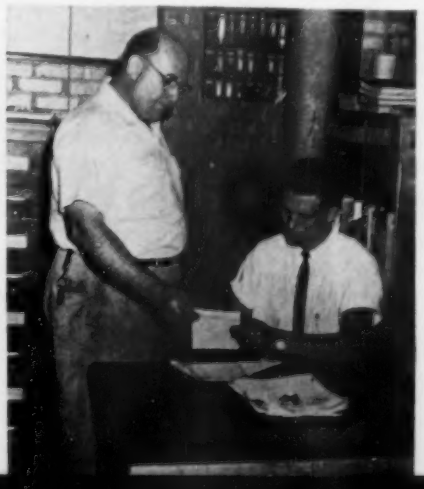
1. AREA CREW LEADER, who also knows various work loads and schedules, assigns card-room mechanic to job. Worker looks after mechanical repairs.

2. SECRETARY keeps a copy of Form 2, passes it on to technical foreman in charge of over-all maintenance of production machines.

2. MECHANIC goes to supply room, withdraws machine part from stock. Stock keeper fills out punched IBM card Form 3—"Parts Inventory Control" card.

3. TECHNICAL FOREMAN, knowing various work loads and schedules, assigns area crew leader to the job.

3. MECHANIC goes to card room, stops card No. 37, puts on the new part, then reactivates the card. He returns Form 2 to area crew leader for processing.



charge of PM. He reports directly to the director of manufacturing. This way, PM takes on real status.

Two superintendents report directly to Mr. Hart:

• **The superintendent of maintenance.** He's really the plant engineer. In that respect his title is misleading. He's in charge of the mill buildings, the machine shop, the electrical shop, the carpenter shop, and other service departments.

• **The technical superintendent.** Here's where PM operations really head up. In this executive's hands rests responsibility for all production machines in the mill except those in weaving, cloth room, napping, and binding. This is the man who has erased the worries from the brows of production-department chiefs.

START IN SPINNING

Take the spinning room. It's a good example of the way the technical superintendent operates when he takes over responsibility for maintaining production machines.

Chatham's spinning room used to have section men, just as most other textile plants do. Each section included 20 frames. Section men reported to the department head of spinning. The overseer's top worry was production—"Get the yarn out. Keep those frames going." The upshot: Spinners, who are pretty high-skilled people, had to chase troubles, inspect machines, and make temporary repairs, in addition to their spinning duties. What's more, with production foremost in his mind, the department head would defer inspection, replacements, shutdowns, and the like as long as he could—anything to keep the frames running without interruption.

But Chatham's spinning room doesn't run that way any more. The technical superintendent has moved in with his PM program. One result of his program: Spinners now spin—and that's all they do.

First move of the technical superintendent was to select young men as potential mechanical fixers. He used three standard tests to guide him in selection: Forms A and B of the Wonderlic Personnel Test and Form AA of the Psychological Test of Mechanical Comprehension.

He started with a crew of five: crew leader, three overhaulers, and

a cleaner. Right away he gave the crew its first job—essentially a training job. This job was to tear down and rebuild a spinning frame completely, start to finish.

As soon as the crew finished this first overhaul, the frame went back into production. From this point on, the spinning-department head had no more responsibility for the mechanical condition of this frame. It became the responsibility of the technical superintendent and a part of his PM schedule.

As this first frame went back into production the PM crew pulled a second one out of production and began overhauling it. Ever since then the PM schedule has run that way—always one frame out of production and in overhaul.

At the time that first frame was pulled out for overhaul, Chatham had 104 frames. Immediately the company began to figure spinning efficiency on the basis of 103 frames. By the time the twentieth frame was overhauled, spinning production (to say nothing of efficiency) was higher on the 103 frames than it had been on the 104 frames. Today Chatham has 110 frames (15,200 spindles). But it figures efficiency on only 109. One is always out for PM overhaul, on a continuous cycle.

Today the men who started as overhaul trainees not so long ago are highly skilled workmen. They overhaul one frame every 3 to 3½ working days. The first time around, just a few years ago, they needed three weeks to make an overhaul—tear down, repair, re-erect. Today they go further—they add needed machine modifications as they overhaul. (They work only on the first shift, by the way. Chatham calculates the risks this way: With PM working effectively, the chance of breakdown is so remote that it's not worth the cost of keeping a repairman to make repairs on the second and third shifts. In fact, more than 90% of all of Chatham's maintenance work throughout the mill is now done of the first shift only.)

These PM men also chase trouble. For example, the weave room sometime ago was having trouble with streakiness. PM men, using a Strobotac, found the trouble back in the spinning room—low spindle speed, which was causing over 90% of the streaky cloth. PM men immediately removed the bobbins from low-speed spindles, didn't replace them until the trouble was cleared up.

PM men now make all mechanical repairs to spinning frames, such as replacing bearings. Breakdowns seldom occur these days. In fact, downtime from breakdowns in spinning, as in all mill departments served by the technical superintendent and his PM program, has been reduced 70%.

The PM crew not only overhauls frames and, on request of production man, makes repairs. It also moves all machinery and erects new machinery. With major overhauling and machine modifications near completion, every spinning frame will soon be checked for overhaul needs once each year.

One reservation: The technical superintendent doesn't include electrical work in his PM program. That falls to the mill electricians, who are under supervision of the maintenance superintendent (in most plants he'd be called the plant engineer, as already pointed out). He's responsible for checking motors, switchgear, and contacts at the time of PM overhaul. An electrician always takes a motor-load reading just before a frame is removed for overhaul and just after it is put back in production. Result of this close work between PM and electrical: Electrical maintenance is now only 15% of what it used to be.

STOCKROOM, TOO

As PM took over more and more of the spinning-frame overhaul, management gradually shifted the spinning-frame parts stockroom from control of the spinning department to control of the technical superintendent. Today withdrawals are only a small fraction (about 20%) of what they were five years ago. In fact, the records show that after 18 months of the new system two frame fixers in a six-week period actually took out no parts at all except ring travelers.

Stock is now controlled by an IBM punched-card system. Inventory is held within predetermined minimums and maximums. Tighter control (including historical records on quantities of each part used) has made it possible to cut parts inventory 10% thus far. What's more, day-by-day improvements are bringing still further cuts.

NOW LOOK AT CARDING

PM in carding is handled much as in spinning. The technical superintendent has charge of all machines beyond the drive. Since PM got started in the carding department, all cards have been overhauled. It now takes an average of ten days to overhaul one.

Formerly there were 61 cards. With PM, which keeps cards running better and longer, Chatham has been able to eliminate six of them. And even though spinning frames now number 110 rather than 104, these 55 cards still keep up with spinning-department needs.

Claude Hart says, "The card room is the toughest of all mill departments to convert to mechanical maintenance. Man-made fibers are easier to process and are more predictable than wool fibers, which make up a big part of operations."

Even so, results from PM in carding parallel those in spinning. That is, machine speed of both departments has been increased 15%.

The PM program has resulted in replacing over 28,000 cast-iron card bearings with Oilite bearings. Two big results:

- An 8-hr. oiling schedule has been replaced by a 30-day schedule.
- A bearing that was formerly replaced at a cost of $4.50 is now replaced with a 30¢ to 40¢ oil-impregnated insert.

Two divisions in carding—fixing in the carding room is split into two parts: (1) mechanical repairs and (2) machine gauging (card setter). The technical engineer directs repairs, and the carding-department head directs gauging.

Two card setters who were originally card fixers will retire soon. They will be replaced by two men who were selected recently to work with the overhauling crew for approximately three months. When the time comes, they will be given to the carding-department head to be trained on yarn manufacturing.

PM, ALL THE WAY

In the worsted mill the PM program is complete. There are no more fixers (commonly known as section men). They've all been replaced with PM workers.

Stock rooms in the worsted mill and the main plant covered by PM

are under control of the technical superintendent, as in spinning. Every order for parts is written on a punched card prepared by the stock keeper. The card shows the machine number for which the part is being withdrawn, the overhauler's name, and the name and number of the part. The stock clerk adds to the order the number of parts in the bin.

Then a girl in the stockroom office punches all these data into a punched card.

Chatham's IBM department periodically comes up with printout reports that summarize and organize these data three ways:

- **Parts withdrawn.** This printout also shows which machine each part was withdrawn for and who withdrew it.
- **Machines worked on,** with parts used for each machine and payroll number of the man who drew them.
- **Man who withdrew parts,** with number of the machine for which they withdrew them.

The first printout above also is an inventory record. It prints an asterisk alongside each inventory item that has reached minimum, so it can be reordered.

Where do the parts come from? Many of them come from Chatham's own shops. Over 3,000 blueprints of machine parts have been made for the maintenance department and the machine shop, where most studs and gears are now made. Hardening equipment has been installed to provide longer-lasting and better-finished machine parts.

RECORDS, TOO

Every machine in the mill has its own complete record, giving machine specifications, date of installation, overhauling record (including man-hours), and repair parts used on the machine.

Each maintenance crew in each department makes a weekly report of the work it has done during the week—machines overhauled, new machines installed, old machines moved, and repair parts installed.

From this record plant management learns which parts wear fast, which last long. For example, having found that twister rings wear rapidly, PM men now inspect them every three months. This record also is a guide for continuous research in machine parts. Such research has turned out many improved parts since PM began.

To use manpower more efficiently, Chatham recently set up a special department manned by oldsters, partly disabled people, and otherwise handicapped workers. They now do about 50% of the unskilled repair and cleaning work that used to be done by high-priced mechanics. At machine overhauls all parts that will come off in one piece are taken to this new department for steam-cleaning and painting, then returned.

BOOST FOR LUBRICATION

Another important department that comes under supervision of the technical superintendent is lubrication. This department lubricates all production machines that are serviced by the technical department. A lubrication engineer heads up this operation. He directs 16 lubrication employees (about 10% of the total maintenance department). These men not only lubricate machines. They also inspect them for worn parts, loose bearings, and other faults, thus back up their associates in PM operations.

Oilers turn in a two-part report each day. One report shows the machine parts lubricated. The second report is an inspection record of faulty machine conditions.

At the beginning of Chatham's PM program, machines were lubricated according to machinery manufacturers' charts. But inspector and oiler reports soon showed weak spots in the schedules. These reports, taking shape as historical records, have brought many a change in lube schedules and lube applications. In fact, the number of lubricants used has been cut 60% since this department was first organized.

In addition to daily inspection reports, oilers make on-the-spot reports of conditions that appear to threaten danger—for example, an unusual noise or a badly worn stud. This report states machine number and faulty condition. The oiler takes this report immediately to the lubrication engineer. The engineer's secretary types his report onto a card, which the engineer takes straight to the technical foreman in the production department.

The head mechanic gives the card to one of his men, who draws a part from the stock room to repair the machine. Then he fixes the machine and gives the breakdown card to the head mechanic, who passes it to the technical foreman.

HOW THE PLANT ENGINEER FITS IN

The superintendent of maintenance (plant engineer) works with the technical superintendent but as an independent department. For example, the carpenter shop (which is under direction of the superintendent of maintenance) reacts to the technical department (in charge of PM) only when a work order is issued by the technical department. The electrical department works independently of the technical department, but does work in conjunction with it—for instance, in checking machine drives at overhauls.

During the past year, a great deal of equipment that used to be serviced only at breakdowns has been added to the machines covered by PM—traps, valves, motors, and instruments, to mention only a few. And there's now a setup by which one man overhauls all wheel-mounted material-handling equipment.

Reprints of this article are available. Prices on request. Write to Reader-Service Dept., Textile World, 330 W. 42nd St., New York 36, N. Y.

No doubt you're only too familiar with the many yarn faults that can plague a cotton mill. Fact is, you can track most faults to their origin and correct them quickly. Here's help in preventing cracks, snarls, slubs, and marks. It's a short primer on . . .

Cotton-Yarn Faults— What Causes (and Cures) Them

By N. H. Pomfret, Textile Consultant, Hamilton, Ontario

YOU'VE HEARD the old definition of the perfect yarn: "uniform, clean, endless." If the definition is easy, getting perfection in yarns is anything but. That's because any number of things can go wrong in the manufacture of yarn—things that can turn a high-quality job into a just-passable job.

Typical causes of bad yarn include crackers, snarls, slubs, singlings, doublings, stringy or wiry yarn, or mill marks. Operator carelessness and dirty machinery are also potential trouble-makers.

Take a look at these trouble-makers. What are the tell-tale signs?

FINDING CRACKERS

Crackers, which resemble a snarl, are caused by spinning a cotton beyond its practical commercial limit. The elasticity of the fibers causes the yarn to untwist and kink back upon itself.

If you apply enough tension, you can sometimes pull the crackers out. When the pulling is done by hand in a quiet room, a distinct crackling sound can be heard. This characteristic sound gives the fault its name.

Crackers are often mistaken for slubs or thick places in the yarn. But actually they are caused by thin places. Too much twist causes these thin places to form a series of spirals that are tightly held together by the natural tendency of the yarn to untwist.

To prevent crackers, the first step is to examine the drafting system. The fault can be caused by too-close roll settings or by excessive drafting at either the roving or spinning frame.

Thin (or thick) places in yarn also can be caused by cut or channeled rolls, by badly geared draft wheels, by top and bottom rolls that are out of alignment, by worn roll bearings, and by eccentric top and bottom rolls.

Crackers are not likely to occur when yarn is taut during spinning. To keep yarn taut, special attention should be paid to traveler weight and spindle speed.

Care also should be given to the method used to stop and start the spinning frame. The best way to stop the frame is to do it quickly while the ring rail is moving down. If the frame is stopped quickly, less yarn is spun under low tension. And when the frame starts up from this position, the downward movement of the rail helps keep the yarn satisfactorily tight.

WATCHING FOR SNARLS

Snarls are caused by the natural tendency of spun yarn to untwist and kink about itself. Sometimes these snarls will pull out a subsequent operation if enough tension is applied. But when the snarl is so highly twisted that it kinks about itself twice or more, no amount of tension is likely to disentangle it.

Snarls are a common fault in mule-spun yarn, but they can also be caused at the ring frame during stopping and starting when winding tension is low. Highly twisted yarns, such as voile yarn, are likely to snarl if travelers are too light.

SPOTTING SLUBS

Slubs, produced at both carding and spinning, are formed by abnormally thick places in the yarn. Because of its thickness and resistance to twist, the slub is much softer than the rest of the yarn.

There are many places on cotton

spinning frames where slubs can be made. Short fibers that fall out of the sliver, roving, or yarn gradually accumulate until the mass becomes too heavy or too bulky to stay in its original position and falls onto the stock as it passes through the machines.

Common places for these accumulations to build up on the roving frame are top and bottom clearers, flyer arms, pressers, weight hooks, and traverse guides. On spinning frames, the roving guides, cap bars, lappets, separators, and middle traverse guides are places to watch.

It is often a simple matter to determine where a slub has been formed. When the slub or thick place can be moved along taut yarn, it is obvious that the fault was made at the spinning frame after the yarn had received practically all its twist. Such a fault could be caused by carelessness in cleaning the lappets or in blowing down the frame.

If the yarn is spun from double roving and one contains a slub, the resulting slub will be in the shape of a spiral. If the slub is discolored, the color may act as a guide in determining its origin. Dirty gray slubs usually are made in blowing down the carding and spinning rooms. Greasy slubs often result from lint that starts near bottom-roll bearings, weight hooks, and roll-pivots.

To reduce slubs, machines must be kept clean and the operators should be taught to detect and save slubs for the second hand to examine as a guide to action.

FINDING SINGLINGS

When two rovings are put up at the spinning frame, one of them may break back while the other, meantime, continues to be spun into yarn twice as fine as the original number. To prevent this trouble, the traveler should be heavy enough to break all single ends.

But since yarn tension varies so greatly between the empty and full bobbin, care should be taken in testing traveler weight to make sure that the traveler is heavy enough to break singlings when the wind is at minimum tension. Otherwise long lengths of single yarns may be made, especially when you are using a warp wind at the spinning frame.

With filling wind, where the tension varies more quickly from maximum to minimum, the danger of singling is not so acute. Strong man-made fibers are especially prone to produce singlings—so much that it is not considered good practice in some mills to spin these fibers from double roving.

CURING MILL MARKS

Mill marks are often made in the carding, spinning, and yarn-handling departments. Most of the marks made in the card room are imbedded in the yarn. Some of these causes are:

- Dirt and oil getting into stock in process
- Failure to cover stock in temporary storage
- Ceilings, high-up equipment dirty
- Dirty trucks and bobbins
- Bobbins carelessly packed
- Cracked bobbins that take up spindle oil
- Dropping bobbins on the floor
- Operators with dirty hands

SPOTTING STRINGY YARN

This fault is practically the same as that caused by doublings. The difference is that the fault appears in long lengths, far longer than faults caused by careless operators. The principal cause is slippage of the top front roll.

When this roll slips, the total draft of the rolls is reduced while the spindle speed remains the same. The same total turns per unit of time are given to a shorter length of coarser yarn.

Such yarn has a much harsher hand and a duller appearance than properly spun yarn. The diameter of the package, however, is the same as that of normal yarn. Cleaning, scoring, and lubricating the drafting systems will nearly always cure this fault.

WATCHING DOUBLINGS

Doublings usually are caused at the roving frame by an end breaking and flying across to an adjacent spindle, where it is wound onto the bobbin with the running end from that bobbin. This fault also can be caused at the spinning frame when an operator pieces a full bobbin to an almost empty one and then leaves a long tail before taking the empty bobbin from the creel.

Both singlings and doublings are operator faults because whenever they occur some operator has carelessly permitted them to go forward. For example, a fly-frame operator may piece up the broken end without unwinding the doubling from the adjacent spindle, or a spinner may creel up or piece up a broken roving without unwinding the singling from the yarn bobbin.

WHAT DIRT DOES

Marks made at spinning may be spun into the yarn or may show up on the outside of the yarn. Dirty hands and machines are the principal cause of marks in the spinning department.

The best way to prevent marks at spinning is to provide plenty of facilities for keeping hands and machines clean. Dirty work should be assigned to personnel other than spinners wherever possible.

Most of the marks made after the yarn leaves spinning are caused by cones, bobbins, and cheeses falling on the floor. Storage in dirty bins and bobbins is a contributing factor also.

Mill marks can be kept under close control only by never-ending supervision, by training, by cleaning, and by maintenance.

What Happens When You Put Mechanical Cleaners . . . into a 48,000-Spindle Carded Mill

SCHEDULE FOR HAND CLEANING AT SPINNING

OPERATION	BEFORE MECHANICAL CLEANING	AFTER MECHANICAL CLEANING
Brush thread boards	Once per hour	Once per 24 hours
Wipe roll stands	Once per shift	Once per 24 hours
Brush rails, head, and foot end	Once per shift	Once per 24 hours
Clean backs	Once per shift	Once per 120 hours
Pick back flat clearers	Once per shift	Eliminated
Wipe top creels	Once per shift	Eliminated
Wipe roving	Once per shift	Eliminated

LABOR CHANGES ON THREE SHIFTS

OPERATORS	HOURS NEEDED		HOURS SAVED BY MECHANICAL CLEANING		
	BEFORE MECHANICAL CLEANING	AFTER MECHANICAL CLEANING	BY TRAVELING CLEANERS	BY END COLLECTION	TOTAL SAVED
Spinners	60	44	5	11	16
Hand cleaners	16	5	11	—	11
Roving haulers	8	4	4	—	4
Total	84	53	20	11	31

COST OF EQUIPMENT INSTALLED:

Traveling cleaners and creels	$164,000
End collectors	84,000
Total	$248,000
Total savings per year with fringe benefits	$120,000
Pay-out	2 years

. . . or into a 40,000-Spindle Combed Mill

FREQUENCY OF HAND CLEANING AT SPINNING

OPERATION	BEFORE	AFTER
Brush thread boards	Four times per shift	Once per 24 hours
Strip scavenger roll	Once per shift	Eliminated
Clean stands and back guides	Once per shift	Once per 120 hours
Clean roving rods and top creel	Once per shift	Once per 120 hours
Clean and wipe thread guides Clean under lappetts and separators	Once per shift	Once per 120 hours
Brush rails	Twice per shift	Once per 24 hours
Clean middle creel board	Once per 24 hours	Once per 120 hours
Clean traverse and cap bars	Once per 24 hours	Once per 120 hours
Clean deck of frame	Once per 120 hours	Once per 120 hours
Clean roving tapers	Once per 40 hours	Eliminated
Pick rolls	Once per 60 hours	Once per 120 hours

LABOR CHANGES ON THREE SHIFTS

OPERATORS	HOURS NEEDED		HOURS SAVED BY MECHANICAL CLEANING		
	BEFORE MECHANICAL CLEANING	AFTER MECHANICAL CLEANING	BY TRAVELING CLEANERS	BY END COLLECTION	TOTAL SAVED
Spinners	28	20	2	6	8
Hand cleaners	12	1	9	2	11
Blow-off men	2	1	1	—	1
Roving haulers	8	4	2	2	4
Roll pickers	6	5	½	½	1
Total	56	31	14½	10½	25

COST OF EQUIPMENT INSTALLED:

Traveling cleaners	$65,000
End collection	$48,000
Total	$113,000
Total savings per year with fringe benefits	$75,000
Pay-out	1½ years

Key Facts You Should Know About Today's TRAVELING CLEANERS

Now mechanized cleaners can cut your clean-up labor costs 25 to 50%—sometimes more. Whether they huff, puff, flow, or suck lint and trash away, they'll save you costly labor time, improve your profitability. Here's a comparative view of what's available, and how it can work for you—today.

By WILLIAM G. ASHMORE
Associate Editor
TEXTILE WORLD

IN CARDING MILL, work assignments increased by 37% after traveling cleaners and vacuum end collectors had been installed by management.

IN COMBING MILL, spinning labor force was reduced by 45% once management had installed mechanical cleaners in the mill.

TRAVELING CLEANERS — Begins on page 50

CLEANING is a major problem and a major cost in every textile mill—especially cotton mills. From 20 to 50% of your total labor cost probably goes for cleaning. What can you—a cost-minded executive—do about this costly problem?

Probably you've already done something about it at spinning. Most mills have some sort of traveling cleaner and vacuum end-collection system in operation. But is your system up to date? Is it giving you the best return on your investment? And what about other departments? Are you going to keep on paying operators high wages to wield brooms, mops, and air hoses in the card room and weave shed?

No matter what your cleaning problem is, it will pay you to take a close look at the economics of mechanical cleaning, especially at spinning, and see if you can project some of the advantages into other departments. Here are two economic facts that stand out:

- **Quick pay-out from savings** in hand-cleaning labor.
- **Improvement in yarn quality.**

Behind these two facts lies this figure: More than 85% of the spinning spindles in operation in the United States today are covered by some type of traveling cleaner. Overhead cleaners for card rooms and traveling cleaners (for roving frames, drawing, twisters, winders, and looms) also are coming up fast.

The total investment is overhead traveling cleaners on a replacement basis is at least $50-million, according to a major manufacturer. On an average two-year pay-out, this equipment is saving the textile industry $25-million yearly.

The story with vacuum-end collection is much the same. The replacement cost of this equipment today would be at least $30-million. On an average two-year pay-out yearly savings come to $15-million in labor alone.

INSTALLATION COST

Because of the many variables in building layout and machine design, it isn't practical to put the initial cost of different types of mechanical cleaners on a common basis. For example, spinning frames and twisters vary in gage, card-room ceilings vary in size, and different machines have vastly different kinds of areas to clean. Here are some average costs and savings:

- Cost of spinning-frame cleaners, $1.60 to $1.90 per spindle
- Cost of vacuum end collectors, $1.20 to $1.75 per spindle
- Total savings per year, $1.90 to $2.50 per spindle

A floor sweeper with a spinning-frame cleaner will add about 60¢ per spindle to installation cost, but it will save an average of 40¢ per spindle per year.

Overhead cleaning in the card room averages about 30¢ per square foot of ceiling covered. Savings are hard to calculate in dollars and cents because of variables in layout. But experience indicates that you can cut your compressed-air blow-down schedule from about once a week to twice a year.

Roving-frame cleaners cost from $500 to $700 per frame installed, and savings per frame average about $300 per year.

Cost of cleaners for winding, twisting, and warping vary widely with the type of production equipment and cleaners used. An installation may cost anywhere from $300 to $1,000 per machine.

Loom cleaners cost from $75 to $100 per loom covered. You get your savings by eliminating daily blowing off and by confining cleaning to warp-out time.

Operating cost of mechanical cleaners consists mainly of the power they use. In the Carolinas, for example, textile power costs range from 1.25¢ down to 0.5¢ per kilowatt hour. Taking an average rate of 0.6¢ to 0.8 and the theoretical 746 watts per horsepower, it costs about $40 per horsepower per year to run mechanical cleaners.

Horsepower ratings for the various types of cleaners are:

- Roving frame, 1 to 2.8 hp.
- Spinning frame, 1 to 2.08 hp.
- Floor sweeper, 1 to 2.8 hp.
- Winder, twister, warper, 1 to 2.0 hp.
- Loom, 2 to 5.0 hp.
- Vacuum end collector:
  Unit, 1 to 3.0 hp.
  Central, 20 to 30 hp.

Major manufacturers of frame and room cleaners are American Mono-Rail Co., American Moistening Co., Bahnson Co., Louden Machinery Co., and Parks-Cramer Co. Bahnson Co., Pneumafil Corp., Parks-Cramer Co., and Roberts Co. all make end-collecting equipment.

A WORD ON FIGURES

In the tables that follow, TEXTILE WORLD has not included cubic-foot figures on air directed at machines or at the ceiling. Why? Because cleaner manufacturers have not set up any uniform measurement against which a prospective buyer may gage and compare available equipment. The editors feel there is a real need today for uniform specification language among cleaning-equipment makers so that the mill manager can evaluate the relative capabilities of various pieces of equipment.

Spinning-Frame Cleaners—In wide use today

Three companies — American MonoRail, Bahnson, and Parks-Cramer—specialize in automatic traveling spinning-frame cleaners.

The three basic makes of equipment these companies manufacture are all designed to clean textile machines and overhead areas. Each has special devices and designs that do specialized jobs.

All three units now use the Parks-Cramer-developed flexible sleeves to pipe air down to the crucial areas and points. Being flexible and safe, the sleeves or air ducts come down well below head height to deliver air into the underframe areas and on the creels, roll beams, thread boards, and thread guides.

Each company also makes a traveling vacuum floor sweeper for use with the frame cleaners.

Individual makes of frame cleaner units and track systems differ somewhat in design although the functions are similar. Here's a quick rundown of the three current systems:

- The American MonoRail unit employs three motors. One is a small wheel. There are two fans, each with its own separate motors, for the frame and overhead clean-

ing units. The overhead cleaning units are fixed so they will blow at a forward or backward angle.

The American MonoRail track system consists of three rails with the center rail carrying all the weight or load and the two outside rails stabilizing the unit and minimizing the rocking. The three rails are electrified. They serve as electrical conductors.

• The Bahnson Cross-Jet cleaner has three motors and four fans. One small motor propels the unit along the track, with the motors protected by overload devices. The other two motors have double extended shafts with fans on either end. These motors and fans are on opposite sides of the center line of the unit and are attached, outrigger-like, to the frame.

Each fan is enclosed in a separate sheet-metal housing. Multiple flexible sleeves for cleaning the frame extend downward from one of the fans on each side of the frame. The other fan housings oscillate slowly back and forth and direct air into the overhead areas for ceiling cleaning. They cover an arc of 110 degrees. Special outlets for cleaning open-type creels and bobbin holders are provided along with outlets to blow lint off the track and cleaner itself.

Bahnson recently introduced a new design of track called Vert-I-Rail. It uses a single 6-in. steel I-beam with a 1¾-in. flange in upright position. One set of wheels rides the top of the steel I-beam and carries the weight of the equipment. Although the cleaner has a low center of gravity, guide and stabilizer rolls on the top and bottom edges of the rail stabilize the unit further. A separate three-phase electrical system provides the current, which is collected by a brush carrier attached to the traveling-cleaner unit. The electrical conductors are on the side of the I-beam and are shielded by a cover open at the top (to admit the brush carrier) and at the bottom (so lint can pass through and not be trapped). Overhead and double-angle tracks also are available. The cleaner can be adapted to run on most types of track.

• The Parks-Cramer traveling cleaner design is relatively new. Whereas frame and overhead cleaner used to be separate units (each having its own fan and motor), the new cleaner combines both operations into a compact unit with one motor and one fan. The design reduces weight, makes maintenance easier than ever.

The lower end of the motor shaft powers the driving wheels through a gear transmission. The fan is enclosed in a sturdy, welded aluminum housing from which the flexible sleeves extend downward to serve all areas of the frame.

A special outlet is now available for cleaning the new open-type spinning creels. It distributes air more evenly throughout the creel for better cleaning of the roving and bobbin holders. The upper part of this single cleaner unit revolves and directs cleaning streams of air upward and horizontally so as to reach all points of the room above the top of the cleaner itself.

The Parks-Cramer track has been strengthened to carry more payload with fewer supports. This two-rail track system, with the weight of the traveling cleaner divided equally on the two rails, does not require stabilizer wheels to keep the cleaner in a vertical position. The separate electrical system consists of three conductors insulated from the track and enclosed on three sides and part of the fourth.

Woolens, too—In the woolen field, American Moistening recently introduced a ceiling-mounted cleaner that directs air at the frame and away from the operator. No flexible sleeves are required. The unit moves down the middle of the aisle on a ceiling-mounted track, and a rotating nozzle directs a puffing, swirling air stream at the frames.

How Spinning-Frame Cleaners Look and Act

ENGINEERING DATA	AMERICAN MONORAIL CO.	BAHNSON CO.	PARKS-CRAMER CO.
Effective range of ceiling cleaning	20-ft. radius	14-ft. radius (600-fpm.)	15- to 20-ft. radius
Voltage (3-phase a.c.)	55	220	110 or 220
Total horsepower	2.08	2.33	2.8
Number and horsepower of fan or blower motor	2—1 hp. each	2—1.125 hp. each	1—2.8 hp.
Type and horsepower of drive motors	Gear 1/12	Gear 1/12	None
Number of fans or blowers	2	4	1
Type of track	Three rail	Overhead, I-beam, or double angle	Two rail
Type of electrical conductor	Rail serves as conductor	Three-bar brass in galvanized channel	Three shielded brass conductors
Average traveling speed (ft. per min.)	130	113	60 to 120
Average number of machines covered	20	Varies	Varies

How the Floor Sweepers Perform

ENGINEERING DATA	AMERICAN MONORAIL CO.	BAHNSON CO.	PARKS-CRAMER CO.
Voltage (3-phase a.c.)	55	220	110 or 220
Total horsepower	1	1.21	2.8
Number and horsepower of fan or blower motor	1—1 hp.	1—1.125 hp.	1—2.8 hp.
Type and horsepower of drive motors	Towed	Gear 1/12	None
Number of fans or blowers	1	2	1
Type of track	Three rail	Overhead, I-beam, or double angle	Two rail
Type of electrical conductor	Rail serves as conductor	Three-bar brass in galvanized channel	Three shielded brass conductors
Average traveling speed (ft. per min.)	130	113	60 to 120
Average number of machines covered	20	Varies	Varies

Vacuum Floor Sweepers—They pay out quickly

Present automatic floor sweeping equipment is cutting out two-thirds or more of the manual sweepers found in the average spinning room. Direct labor savings figured on a realistic basis make vacuum floor sweeping a quick-return investment of two or three years pay-out. For example, a carded mill employing one sweeper per shift in its spinning room can get along nicely with one sweeper per three shifts—a saving of $6,000 per year for an investment of about $14,000. Additional benefits are realized in fewer ends down from traveler loading.

A traveling vacuum cleaner was pioneered in 1958 by Parks-Cramer. It is called TravelVac. It operates in tandem with the spinning cleaner, like the earlier types. But it is a vacuum instead of a blowing system. Long flexible sleeves extend downward to the floor on either side of the spinning frame and terminate in wide-mouth or fish-tail nozzles. The vacuum-recovered lint is retained in the unit until it is discharged into the receiver. From the receivers (one for each cleaner unit), the line is conveyed through ducts by a central fan into a central separator and large bin or box. This action almost completely automates floor cleaning.

A unique feature of this machine is the receiver. Each one has an air-operated damper in the duct. The damper is automatically opened just before transfer of the collected sweeps from the unit to the receiver. As only one receiver unit is operating at a time (and it is closed immediately after loading), it is possible to serve several receivers with a much smaller fan, motor, and separator than otherwise possible.

American MonoRail offers traveling vacuum equipment also. This floor-sweeping system has each traveling vacuum unit served by its own individual waste-recovery system—a waste receiver with stationary vacuum nozzles that automatically strip each screen as the unit passes. Collection cabinets, usually located on a room wall nearby, are similar to the well-known vacuum-end collection or Pneumafil-type of cabinets.

Each cabinet contains a small fan and filter screen. Waste is removed from the cabinets as necessary. The machine has its own fan and motor, but no tractor is required because the cleaner is towed by the frame cleaner.

Bahnson recently introduced VacuPak, a traveling vacuum cleaner that operates with its spinning-frame cleaner. Like the others, this machine features long flexible sleeves and its own fan and motor. It operates on Standard Vert-I-Rail track, but—in most instances—can be adapted.

The VacuPak stores lint in two screened containers. The containers do not have to be emptied more than once a day, and no automatic doffing device is needed.

Loom Cleaners—They're catching on fast

Newly developed loom cleaners drastically reduce hand cleaning. They will pay out the cost of installation in 2½ to 3 years. For example, loom and floor cleaners over 200 Draper shuttleless looms are said to save $13,500 per year on a $30,000 investment, based on reducing combination operators (who sweep, clean looms, and haul warps) from 2½ to 1 per shift.

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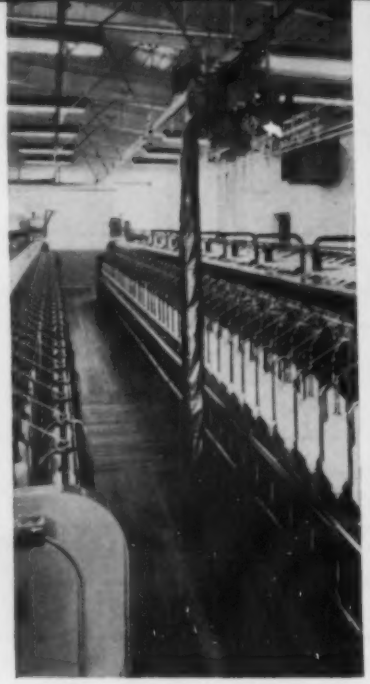
TRAVELING CLEANERS: 15 FEATURES OF NEWEST EQUIPMENT



1. ELECTRONIC CONTROL of air shut-off and revolving nozzle feature this new American Moistening Co. cleaner.

2. FLEXIBLE SLEEVE directs air at roller beam, stop motion, flyers, and other areas on American MonoRail unit.

LOOM CLEANERS (Cont'd)

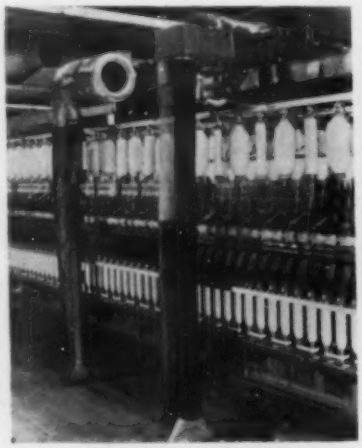
Modern loom cleaners practically eliminate the daily hand cleaning of looms between warp-outs under favorable humidity. The upper surfaces of the loom are kept clean. Drop wires are kept free of lint, warp aprons can be removed, and the harness stays reasonably clean.

Lint accumulations under the looms in most instances are blown out if girders are not too close to the floor. Otherwise, the lint may pack down and require more frequent removal by hand.

Looms are much cleaner at warp-out, and the general hand cleaning at that time is much easier. Also there are cleaning preparations on the market with detergent or enzyme properties that aid in doing an efficient cleaning job at warp-out time.

The new high-speed shuttleless looms produce more and better cloth with loom cleaners, and most if not all of the installations are so equipped. In some installations a floor vacuum cleaner is used along with a loom cleaner to keep the floor clean automatically.

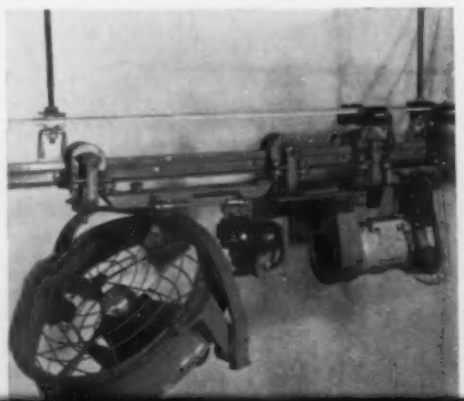
These new looms are easier to clean than the shuttle types. But a number of new points (such as the cones of filling, guides, and tensions) require frequent but careful cleaning by a properly designed unit. Each of these areas or points of cleaning requires air of the proper intensity and direction. For example, the air requirement for cleaning wires is quite different from



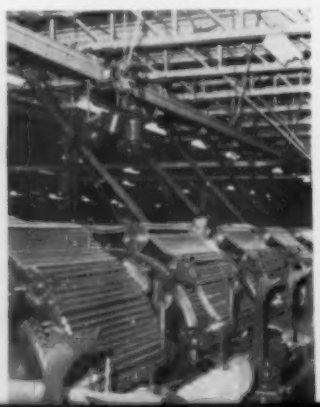
6. FOUR FANS plus three motors are power-pack on this Bahnson unit. Nozzles oscillate over 180 degrees.

7. FRAME AND OVERHEAD cleaner are combined in this Parks-Cramer unit. Requires only one motor, one fan.

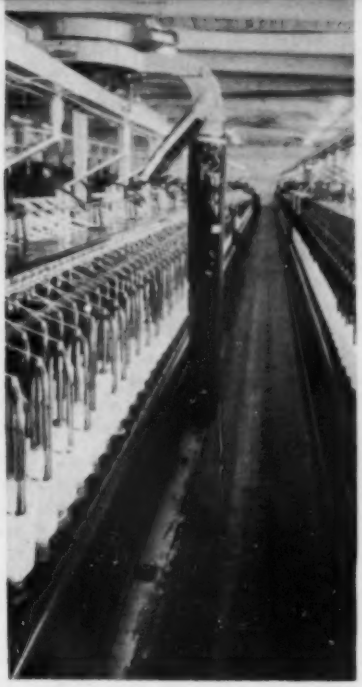
11. AUTOMATIC TRIP causes indexing so that direction of air stream changes a bit on each trip. Unit made by American MonoRail.



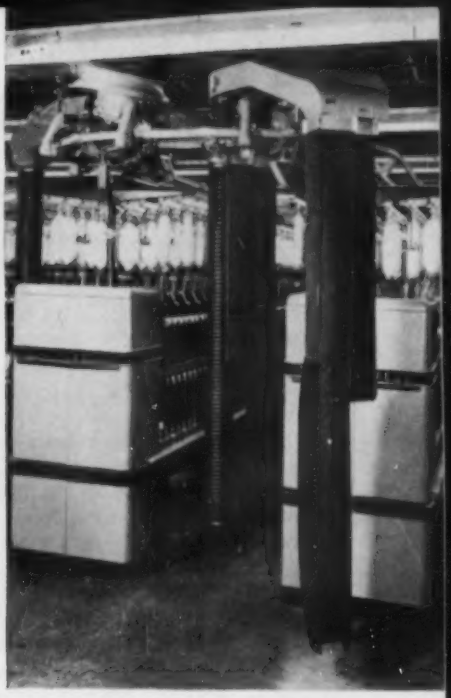
12. TWIN AIR streams oscillate continuously over 180 degrees. American Moistening.



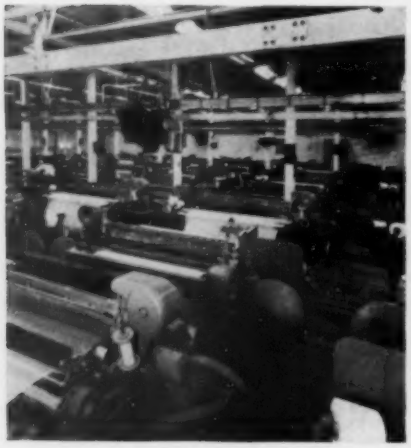
3. DOUBLE PODS (or single pod) on this Bahnson cleaner direct air at frame and ceiling. Range is 14 feet.



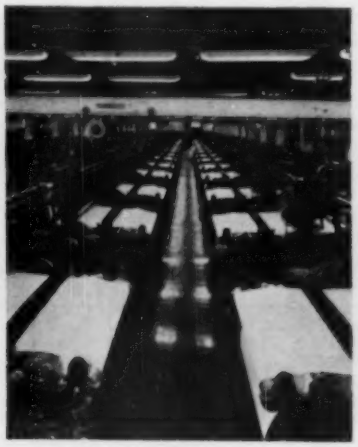
4. ONE MOTOR—two jobs: This 2.8-hp. motor runs fan and machine. Dampering is automatic. It's Parks-Cramer's.



5. SPECIAL OUTLETS for air are cut into cleaner sleeves at time of installation on this American MonoRail unit.



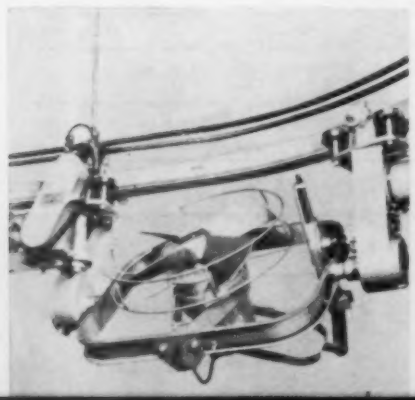
8. ROTATING NOZZLE creates a circular and puffing air-stream motion on this American Moistening Co. cleaner.



9. SWEEPING AIR streams from two separate blowers cover all parts of loom. Unit is by American MonoRail.

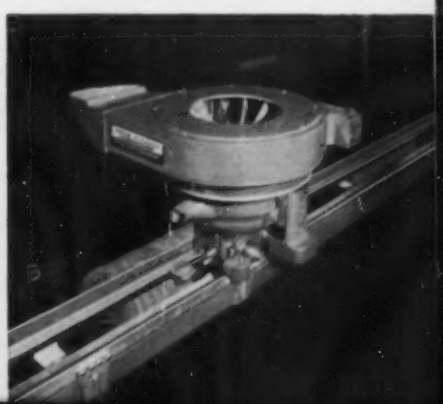
10. FLEXIBLE SLEEVES pipe air to hard-to-reach places on this Parks-Cramer unit. Floor sweeper is attached.

13. INDEXING MECHANISM makes fan change from forward to vertical to backward motion on Bahnson cleaner.



14. TWO-FAN CLEANER blows in opposite directions to eliminate dead air pockets. Louden Machinery Co.

15. ENCLOSED FAN slowly revolves 360 degrees, directs air jets horizontally, vertically. Made by Parks-Cramer.



what is required to clean the filling tensions.

The new shuttleless looms operate at much higher speeds and create more of a lint problem. It's important to keep the floors clean around these looms to eliminate the problem of lint being blown up and getting into the work in process. Loom cleaners are more efficient where humidity is not excessive—under 75%—and where there is as little free moisture as possible. Size formulas can often be modified to reduce stickiness.

There are four principal makes of automatic loom cleaners on the market today—American MonoRail, American Moistening, Bahnson, and Parks-Cramer. American MonoRail was the pioneer in the field. All differ somewhat in design of cleaner unit and track.

• American MonoRail equipment consists of two separate blower units, one on either side of the loom, directing air toward the loom in an oscillating fashion. Each blower unit has its own fan and motor. Fan is enclosed in the oscillating housing and has a single loom-cleaning outlet. Oscillation is by a single cam-and-lever motion that serves both units. The pair of units is mounted on a single framework or carriage and may be operated on a single ceiling-suspended, monorail-type track system directly over each line of looms or as part of a loom-beam material-handling system.

The single monorail track covers a large number of looms, usually in a closed circuit. A separate tractor unit propels the cleaner-unit carriage, and electrical current is picked up by brushes from open conductors, which are immediately above the track.

The loom-beam, bridge-type material-handling system of cleaner utilizes the track on which the loom-beam bridge operates. Mill construction generally is such that the mill spans are approximately 25 feet wide. The loom-beam bridge covers this span and runs on the track at either end of the bridge. A similar bridge is used for the loom cleaners and operates on the same track. An automatic reversing arrangement reverses the bridge at each end of travel. A variation of this bridge-type loom cleaner is available in which a single pair or set of cleaner units automatically indexes across the bridge at each end of the room to blow on another line of looms.

• The American Moistening loom cleaner also is operated from a single ceiling-suspended track and collects electric current from a separate conducting system mounted inside the vertically-positioned, single, channel-iron track. Unusual feature of this cleaner is that the two fans have a rotating nozzle at each outlet. This nozzle creates a circular and puffing air-cleaning motion that rolls waste out from under the loom. No vacuum cleaner is required.

American Moistening recently introduced a special cleaner for jacquard looms. The unit has two small oscillating fans that blow directly on the jacquard head and prevent waste from packing or false indexing. Two ¼-hp. motors are used to operate the fans. A third ¼-hp. motor drives the unit. Compactness is a feature.

• Bahnson Co. recently announced a 2-fan, 5-hp. loom cleaner. Engineering data are given in the accompanying table. Stationary nozzles direct the air blast to various parts of the loom. This device

Loom Cleaners—What They Can Do

ENGINEERING DATA	AMERICAN MONORAIL CO.	AMERICAN MOISTENING CO.	BAHNSON CO.	PARKS-CRAMER CO.
Effective range of ceiling cleaning		8-ft. radius (3,500 fpm. at 3 ft.)		
Voltage (3-phase a.c.)	110 or 55	55	220	110 or 220
Total horsepower	2.5	5.25	5.08	5
Number and horsepower of fan or blower motor	2—1 hp. each	1—5 hp.	1—5 hp.	1—5 hp.
Type and horsepower of drive motors	Gear 1/2	Gear 1/4	Gear 1/12	None
Number of fans or blowers	2	2	2	1
Type of track	One rail	One rail	Overhead, I-beam or double angle	Two rail
Type of electrical conductor	Three bar	Built-in three-bar aluminum conductor	Brass in galvanized channel	Three shielded brass conductors
Average traveling speed (ft. per min.)	90	100	87	60 to 120
Average number of machines covered	150	100	Varies	Varies

of cleanliness, reach into hard-to-clean areas . . ."

can work with the Vacu-Pak floor sweeper. The cleaner itself operates on Vert-I-Rail 6-in. I-beam track.

• The Parks-Cramer unit is a single self-contained type having one fan with one motor to power the fan and propel the unit through a gear box to drive wheels. The track is much like the company's standard spinning cleaner track and is mounted directly over the loom arch and supported from the floor. Special treatment is given the track for the more severe conditions encountered in weaving, such as vibration and high humidities.

The cleaner unit fan is enclosed in a housing that has multiple air outlets, some of which oscillate, some of which are fixed. These outlets direct air at different areas of the loom in varying quantities and patterns. Flexible sleeves are used to pipe air down to areas more difficult to clean and reach.

This arrangement increases cleaning efficiency in the mill, and goes a long way toward assuring a high level of cleanliness everywhere, particularly in hard-to-reach places.

How the Ceiling Cleaners Stack Up

ENGINEERING DATA	AMERICAN MONORAIL CO.	AMERICAN MOISTENING CO.	BAHNSON CO.	LOUDEN MACHINERY CO.	PARKS-CRAMER CO.
Effective range of ceiling cleaning	20-ft. radius	18-ft. radius (3,500 fpm. at 3 ft.)	35-ft. radius (600-fpm.)	12-ft. radius (free air)	15- to 20-ft. radius
Voltage (3-phase a.c.)	110	55	110	220	110 or 220
Total horsepower	1.36	0.75	1.15	2.25	1 or 1.5
Number and horsepower of fan or blower motor	1—1 hp. (1/12-hp. oscillating motor)	2—1/4 hp. each	1—1 hp.	2—1 hp. each	1—1 hp. or 1—1.5 hp.
Type and horsepower of drive motors	Gear 1/4	Gear 1/4	Gear 1/12	Gear 1/4	None
Number of fans or blowers	1	2	1	2	1
Type of track	One rail	One rail	One rail	One rail	One or two rail
Type of electrical conductor	Two bar	Built-in three-bar aluminum conductor	Brass in galvanized channel	Two-wire channel conductor bar	Three shielded brass conductors
Average traveling speed (ft. per min.)	100	100	87	70	60 to 120
Average number of machines covered	Varies	Varies	Varies	Varies	Varies

Overhead Ceiling Cleaners—No more overtime

Lint and fly produced in textile-processing rooms of all kinds settle on walls, ceilings, lights, pipes, conduits, as well as on the machinery. Where mechanical cleaners are not available, hand cleaning with compressed air or brushes is done either on a daily or weekly basis, depending on how fast the accumulation develops or how great is the need to protect quality.

Some mills clean down daily on the theory that frequent cleaning prevents large accumulations and it is not necessary to stop frames or cover them to maintain quality. Other mills cover up or pick the waste off machinery. Either way is expensive. But the latter way usually costs more because it is often a Saturday or Sunday job.

There are several different manufacturers of equipment for automatically performing this overhead cleaning operation — American MonoRail Co., American Moistening Co., Bahnson Co., Louden Machinery Co., and Parks-Cramer Co. American MonoRail was first to realize the importance of automation in this type of cleaning.

All cleaners of this type operate from a single-rail track suspended from the ceiling. Some have a single motor that drives the fan and propels the unit, while others use several fans and motors and have separate motors for driving.

American MonoRail features open-type fans that oscillate automatically from one position to another. A special motor is connected to a cam that gives the fan its oscillating action. This action provides 100% coverage of all ceiling area at each cleaning cycle. This company also has an open-type fan that can be automatically indexed to cover about 180 degrees.

Multiple open-type fans, such as the one made by Louden, usually blow in different directions and sweep both sides of the track. American Moistening's ceiling-sus-

pended cleaner continuously oscillates over a 180-deg. sweeping arc and does not index.

Bahnson's Aero-Sweep room cleaner cleans the upper parts of the room as well as the structures of various kinds of machines. It's designed to work in lint-heavy, low-humidity areas. It not only indexes in a plane perpendicular to the track. It also indexes ahead of the cleaner and behind it so that that air moves at all points from many directions.

Parks-Cramer offers an enclosed-fan cleaner that constantly and slowly revolves 360 degrees while directing air horizontally and vertically from several outlets. It cleans with an overlapping, high-velocity jet of air. By revolving, it can blow ahead or to either side or backwards and thus strike all surfaces from all directions.

Overhead cleaners were first developed for card rooms. Soon they were added to spinning and twister cleaning units. They are now becoming popular in spooling, warping, opening, and picking.

How Roving-Frame Cleaners Compare

ENGINEERING DATA	AMERICAN MONORAIL CO.	AMERICAN MOISTENING CO.	BAHNSON CO.	PARKS-CRAMER CO.
Effective range of ceiling cleaning	20-ft. radius	18-ft. radius (3,500 fpm. at 3 ft.)	14-ft. radius (600 fpm.)	15- to 20-ft. radius
Voltage (3-phase a.c.)	110 or 55	55	220	110 or 220
Total horsepower	2.25	0.75	1.21 (single pod) 2.33 (double pod)	2.8
Number and horsepower of fan or blower motor	2—1 hp. each	1—1/2 hp. 2—1/4 hp.	1—1.125 hp. (single pod) 2—1.125 hp. (double pod)	1—2.8 hp.
Type and horsepower of drive motors	Gear 1/4	Gear 1/4	Gear 1/12	None
Number of fans or blowers	2	4	2 (single pod) 4 (double pod)	1 or 2
Type of track	One rail	One rail	Overhead, I-beam, or double angle	One or two trail
Type of electrical conductor	Four bar	Built-in three-bar aluminum conductor	Brass in galvanized channel	Three shielded brass conductors
Average traveling speed (ft. per min.)	120	100	113	60 to 120
Average number of machines covered	12	12	Varies	Varies

Roving-Frame Cleaners—Newest of the family

The first successful roving-frame cleaner of the spinning-frame type was made by Parks-Cramer in 1955. Since that date, American Moistening, American MonoRail, and Bahnson have brought out their own machines.

All of these machines have flexible sleeves for controlling and directing air currents at flyers, carriages, roller beams, covers, can tops, and underframe areas. Compared with spinning-frame cleaners, few of these cleaners are in place up to now because they are new. But interest is growing rapidly, and where these cleaners are in use it is not uncommon to find roving tenders running one or two more frames than they formerly ran. Manufacturers claim that up to 80% of the manual cleaning is eliminated and that slubs are decreased 70%.

American Moistening's machine is electronically controlled to operate only while the roving frame beneath it is in operation. The air shuts off instantly when the roving frame stops.

The unit consists of a frame cleaner and a ceiling cleaner. Back end of the frame cleaner has a Heliclone revolving nozzle that skips over stopped frames.

American MonoRail's roving-frame cleaner also features a stop motion that cuts off the air instantly when a roving frame stops. Bahnson's Rov-Aire cleaner is normally suspended from ceiling-mounted track, and is available in single- or double-fan models. The double-fan model covers two rows of roving frames. Trunks have a stop-motion attachment, also. Parks-Cramer has a standard roving frame cleaner that features one motor (2.8 hp.) designed to operate the fan and propel the cleaner at the same time. The cleaner, generally patterned after the spinning-frame cleaner, blows into the frame and cleans overhead at the same time. Dampering is automatic.

Parks-Cramer recently introduced its new InterVac cleaner that features intermittent suction through louvers and compartmented duct work behind the flyers. This unit works with the traveling frame cleaner. The vacuum is activated only when the blower is passing in front of each compartment.

Reprints of this article are available. Prices on request. Write to Reader-Service Dept., Textile World, 330 W. 42nd St., New York 36, N. Y.

When your weave-room seconds run so high that you have to take corrective action right away, the overseer often becomes jittery. Results— even higher seconds, and sometimes a demoralized weave room. Here's the right way to take corrective action.

Better Way to Control Second-Quality Cloth

HOW TO CONTROL second-quality cloth? Start by making sure that your loomfixers are setting looms to standards that are agreed upon in advance. Otherwise, you'll find second-quality cloth almost impossible to control. Why? Because there are so many possible types of seconds — mispicks, jerk-backs, wavy cloth, and overshots, to name just three examples. And because unless you've got clear standards for setting looms, your loomfixers may work by guess and intuition— and that's no real way to fix a loom.

As mill managers well know, there are baffling paradoxes in running a successful weaving operation. For example, you may have a loom in perfect adjustment turning out second-quality cloth on the one hand, and on the other hand, a loom way out of adjustment may be turning out first-quality cloth.

Imagine a loom with a set of worn teeth on its crankshaft gear. It turns out first-quality cloth despite the fact that it picks late. Perhaps a lazy loomfixer has set pick cams and shuttle boxes wrong so that the loom turns out cloth even though it is running incorrectly. Other parts of the loom, meanwhile, are set (or adjust themselves) to this late-timing condition.

MAKE CHANGES CAREFULLY

Just this kind of confusing ill-adjustment is what eventually can cause untold trouble in the weave room. Thats why you'll find this quick rundown on correcting common loom faults useful.

On a plain cam loom, correction often requires up to four hours in replacing the crankshaft and resetting and timing the picking motion, harness motion, filling-changing mechanism, and closely related parts.

A mill check on the production and quality record of a loom in this condition showed that production was above the weave-room level and not a single cut of seconds had been made for the four preceding weeks.

A preventive-maintenance schedule will prevent such bad loom conditions. But in a normal weave-room operation, a loomfixer should never use a wrench until he makes a thorough analysis of the loom.

The average loomfixer begins setting and adjusting loom parts in a trial-and-error way to eliminate seconds. But many times he increases the degree of the fault instead of correcting it.

However, there should be standard settings and timings of loom parts. Many parts can, and should, be set and timed with a gage.

But because of the complex make-up of a loom and the many variables that affect operation, individual tolerances must be allowed. Take, for example, a loom that occasionally ejects a half-empty bobbin of filling.

In this instance, the loomfixer adjusts the bobbin feeler to exact specifications with a gage. But he does not check the condition and timing of the filling-cam-follower trip. As a result, and if no further adjustments are made, the loom weaves one or more cuts of cloth with mispicks because all the filling runs off the bobbins before new bobbins are transferred.

When weave-room seconds become too high in general and a concentrated drive is made to reduce them, seconds always go even higher before they come down and level off. When seconds are averaging, say, 6% on a certain style, and a drive is made to reduce them, the figure will probably rise to 8% or more before seconds finally drop down to an acceptable level.

WATCHING FOR TROUBLE

This trend to temporary higher seconds is caused by several factors. Supervisors and loomfixers check every loom on the given style, and repairs and adjustments are made. Many times a simple adjustment throws the entire loom out of balance. Then instead of only one misadjustment that causes seconds, there are several things that give trouble.

Here's what usually happens on, say, a cotton-suiting fabric that has excessive mispicks. Every loom is inspected by three or four different people each shift, and each person has his own ideas about what should be done to the loom.

Changes in loom settings to eliminate the mispicks often cause a flare-up of unrelated seconds such as kinky filling.

There's also psychological damage from too much pressure on employees when a strict program is installed to reduce seconds. Loomfixers become harried and try to do too much correcting in a hurry, with utter confusion the result.

KEY ELEMENTS in bulk handling system — good sized silo (5,625-cu.-ft. cappacity), gravity feed device, plus rail siding.

HANDLING STARCH by the Rail-Car Full

From boxcar to slasher size box without manual handling. That's how Jackson Mills, of Iva, S. C., moves starch. And that's how the mill cuts labor time, boosts efficiency, reduces waste.

A NEW BULK-STARCH handling system at Jackson Mills, Iva., S. C. (photo, left), is designed for a new type of starch. It's saving $2,430 per year on 900,000 pounds of starch.

At that rate of saving, Jackson's system will pay for itself in less than six years. And, in addition to a quick pay-off, Jackson can count other benefits:

- Elimination of waste starch.
- Reclamation of storage space.
- Savings in man-hours.

Most important benefit of all is this one: the system assures Jackson Mills a steady supply of starch all the time.

This new system completes the final step of a long-range plan by Jackson Mills to automate its entire starch-handling system. The system includes a mechanical conveyor for unloading hopper cars of bulk corn starch, plus a 225,000-lb. capacity silo, plus a 650-ft.-long pneumatic conveying line equipped with blowers, interlocked controls, motors.

By B. T. MORGAN, Superintendent, Jackson Mills, Iva, S. C., and EARL KING, Corn Products Sales Div., New York.

NEW SYSTEM, NEW STARCH

The simultaneous adoption of the new densified starch (Corn Products Co.'s Easy-Flow No. 3366) has substantially increased the storage and handling capacity of the system. What's more, the starch has made it easier to prepare size, reduced the amount of size used, and produced a high-quality, uniform size that is marked by good film-forming characteristics.

The particles of this new starch are 40% denser than the manufacturer's previous dustless starches. It is granular in form and has a smooth, firm feel. Because of these characteristics, granules flow freely when dry, submerge quickly in a slurry, and give off only negligible amounts of dust during handling. Particle size, moisture content, pH, and viscosity are controlled within close tolerances.

At Jackson, this starch handles nicely in the bulk system. It mixes quickly, pumps well as finished size, and drains completely from kettles at the run-out. The size is also easy to prepare, and viscosity is uniform with little or no tendency to skin or congeal. Because pH is near neutral and the starch is stable, little effect is shown by changes in relative humidity and it's readily wet up for thorough and fast desizing.

RESULTS—UNIFORM PICKUP

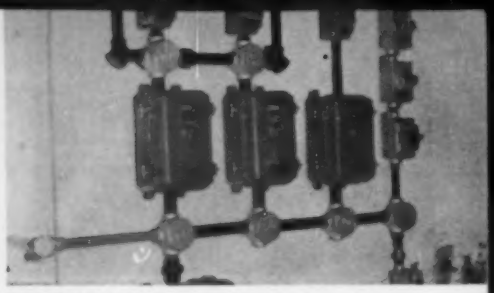
Results of tests on slashed yarn from Jackson made at Corn Products' Greenville, S. C., textile laboratory show a good film with a size pickup of 13% under normal operating conditions. The starch is readily mixed with Jackson's regular sizing additives and has good moisture retention.

Jackson Mills' first step toward mechanizing its starch handling was taken back in 1956, when a day tank was installed in a basement storage area under the slasher room.

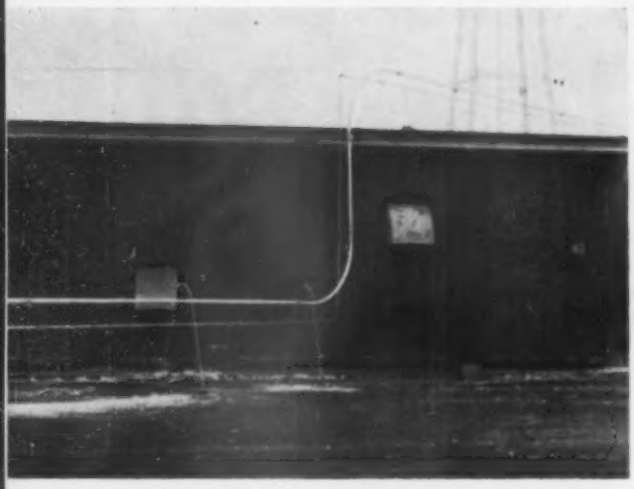
Turn the page

DRAG CONVEYOR unloads a hopper car of starch automatically in less than one shift. Starch flows freely into the conveyor by gravity, then is carried on to the top of the silo.

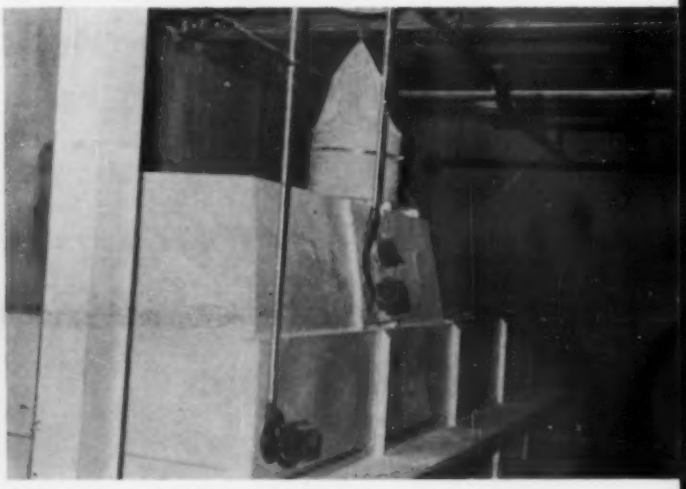
CONE at bottom of silo feeds starch into a rotary seal valve. Blower (left) pushes starch through the aluminum line at 170 cfm. Skirt inclosure adds strength to structure.



CONTROLS in cone room of silo operate conveyors and feeder. They're all explosion proof, interlocked with the starch day bin and at the size-cooking station some distance away.



ALUMINUM TUBING 2½ inches in diameter conveys starch by a circuitous route, from the silo to the day bin 650 feet away. Hangers allow expansion and contraction.



DAY BIN holds 7,000 pounds of starch and has high- and low-level indicators for starch. It's filled in 45 minutes. Post in foreground is bucket elevator.

STARCH comes up the bucket elevator from the day bin to the slasher room, where it's automatically dumped from the weigh-lorry in predetermined amounts.

SIZE is used on multicylinder slashers with a good yarn film. Uniform pickup is 13%. Moisture content of the slashed yarn averages from 7 to 7½%.

How to Save Big Money On Starch

If you want to make a comparison between your own mill and Jackson Mills, here are the figures (in round numbers based on Jackson's system) with which you can make quick calculations. Say you use 1-million pounds per year, or just 100,000 pounds more than Jackson. (Even if you use less, you'll still get an acceptable return on your investment.)

First, you're almost sure to have a railroad siding. So there's no problem in receiving cars of starch right at your own door. And there's no problem in storing starch in bulk, because it doesn't deteriorate.

By saving 27¢ per hundredweight, you'll be able to pay for your system in five to six years. Average cost of a system such as Jackson's is $18,000 to $20,000. This cost varies mainly by the distance the starch has to move. Most systems can be installed on a do-it-yourself basis. Once installed and paid for, the bulk-handling system starts making good-sized contributions to profit.

Here's a run-down on expected savings and other advantages:

Delivered price, starch in bags	$7.50 per cwt.
Delivered price, starch in bulk	7.23 per cwt.
Price savings—bulk starch vs. bag	0.27 per cwt.
Unloading, stacking, and process handling	0.10 per cwt.
Storage labor cost	0.05 per cwt.
Storage space saved:	
1,000,000 pounds / 100 x 12 = 833 bags in storage	
Area 1 bag / 5 bags in stack = 1.2 sq. ft. per bag	
833 bags x 1.2 sq. ft. per bag = 1,000 sq ft.	
1,000 sq. ft. x 0.10 sq. ft. per mo. x 12 mo. =	$1,200 per yr.
$1,200 per year / 10,000 bags per year. = 0.12 per cwt	0.12 per cwt.
Spillage and damage at 1%	0.08 per cwt.
	$0.62 per cwt.
Total savings on 1-million pounds of starch:	**$6,200 per year**
Estimated Annual Operating Cost:	
Depreciation, 20-year basis	$ 900
Maintenance at 2%	360
Operating cost (power)	50
Taxes, insurance, etc., at 2%	360
	$1,670
Recapitulation:	
Gross yearly savings	$6,200
Estimated annual operating cost	1,670
Net savings	**$4,530 per year**

HANDLING STARCH . . . *Begins on page* 60

An automatic-weigh lorry was installed at the cooking station in the slasher room at this same time. The two elements—tank and lorry—were connected by a bucket elevator system.

This equipment eased the job of the man making size because he no longer had to dump bags. It also made size making more accurate because the operator didn't have to handle fractional bags of starch. Slasher-room cleanliness also improved.

Recent completion of the final stage of Jackson's starch-handling program has eliminated two costly time-consuming loading and transfer operations. It also has freed the men and equipment tied up in these operations for other, more productive work.

The basement where the starch was previously stored is 100 feet

ground distance from the rail siding. To unload a 60,000-lb. delivery of bagged starch, 600 bags had to be transported in lots of 18 from rail car to storage room.

This work required a lift truck and two men. A round trip required about 10 minutes and the job took most of an 8-hr. shift.

Because this same truck was also used to transport bales of cotton between the warehouse and the plant, cotton hauling was frequently interrupted.

MAN-HOURS—REDUCED

Although the bagged starch was stored in the same room with the day bin, two men had to fill the bin every 48 hours with 60 to 70 bags of starch. Loading, cleaning up, and disposing of the empty bags consumed two more man-hours.

Today, though, one man can unload a complete carload of starch with the new equipment in only a few minutes. This man hooks up a mechanical drag conveyor installed between the railroad tracks to one of the two car hoppers. The rail car is emptied in from 3 to 4 hours, and no one need watch it. When the railroad car is empty, the operator returns to switch the equipment to the remaining full hopper.

SYSTEM—AUTOMATIC

Between times everything runs automatically. This complete operation takes from 6 to 8 hours. Each regular car of densified starch contains from 88,000 to 90,000 pounds instead of the previous 60,000 pounds, because the uniform granules are more compact. Consequently, the same amount of starch at Jackson occupies about 50% less space.

The drag conveyor that transports starch from the railroad car to the storage silo is powered by a 3-hp. motor on a platform above the silo. The starch flows directly from the hopper car into the conveyor by gravity and is then carried to the top of the silo.

The 5,625-cu. ft. silo holds 225,000 pounds of the densified starch. It is of bolted construction and is coated inside and out with epoxy-resin for waterproofing.

The cone section at the bottom of the silo is enclosed with a skirt to add strength and to house the blowers and controls.

Starch drops from the cone into a rotary feeder operated by a ½-hp., 1,725-rpm. motor. Then it's picked up by a stream of air that conveys it 650 feet to the day bin. The blower is powered by a 10-hp., 1,800-rpm. motor that produces 170 cubic feet of air per minute in the conveying tube.

Explosionproof controls in a wall panel in the room at the base of the silo actuate the drag-conveyor motor, the rotary feed, and the blower motor. The motors can also be operated manually if desired. But except for the drag conveyor, they ordinarily spring into action automatically when the system requires starch.

Starch flows from the storage silo to the day bin is controlled by high- and low-level indicators on the side of the day bin. The starch is conveyed by two 2½-in. aluminum tubes. When the system is operating at normal capacity, 5,000 pounds of starch is conveyed through the tubing to fill the day bin in 40 to 45 minutes.

The lightweight aluminum tubing follows a circuitous route from silo to day bin—up the side of the card room and across the roof, down and across the winder-room roof, and finally down the side of the slasher room to the day bin in the basement.

Special U-shape supports suspend the aluminum tubing, cradle it properly, and allow it to expand and contract freely. Where the tubing spans open areas with no roof tops or ground directly under it, it is suspended by cable.

CONTROLS—CLOSE BY

The suspension and support system also carries conduits for the interlocked controls to permit operation and observation of the system's units from the slasher room some distance away.

From the day bin starch is carried to the cooking station in the slasher room above. A short screw conveyor in the bottom of the day bin feeds starch to a vertical continuous-bucket conveyor.

When the size operator is ready to prepare a batch of paste, he sets the scale on the hopper-shaped weigh lorry for the amount of starch needed in the formula. After the weigh lorry is filled, the day-bin conveyor is automatically shut off by a mercury switch on the balance arm of the scale.

The weigh lorry can be rolled on its trolley over all three 150-gal. cooking kettles in the size-cooking area. Other ingredients are added to the kettles manually by the size-making operator. Temperature and cooking time alike are controlled automatically.

SIZE—MADE QUICKLY

Except for a small reduction in the amount of starch used, the new starch has not made any changes in Jackson's size formula. Preparation time is the same.

Here's the formula for size at the mill:

110 gallons of water
10 pounds of softener
128 pounds of No. 3366 Easy-Flow starch
8 pounds of wax

The water is metered into the cooking kettle. Then the starch, softener, and wax are mixed at 55 rpm, for 15 minutes. Next, compressed air at 60 psi. is admitted to the cooker for fast and thorough mixing. The size is heated by injecting steam into the kettle and cooking for 15 minutes. Total preparation time is less than 45 minutes. Thermocouples in the kettles record batch temperature continuously through the operation.

When size cooking is finished, size is pumped through a homogenizer at 2,000 psi., then into 250-gal.-capacity storage kettles and held at 208 F. by steam in closed coils. Agitators in the storage kettles operate at 20 rpm.

A continuous supply system links storage kettles to the size boxes of the two slashers. Temperature at size boxes is 208 F.; at slasher cylinders, 230 to 250 F.

With the new system, there's less shedding at slasher lease rods and loom efficiency is high. Desizing is normal.

Analyses show that moisture content of the slashed yarn averages between 7 and 7½%. Single-end breaking strength and elongation are satisfactory.

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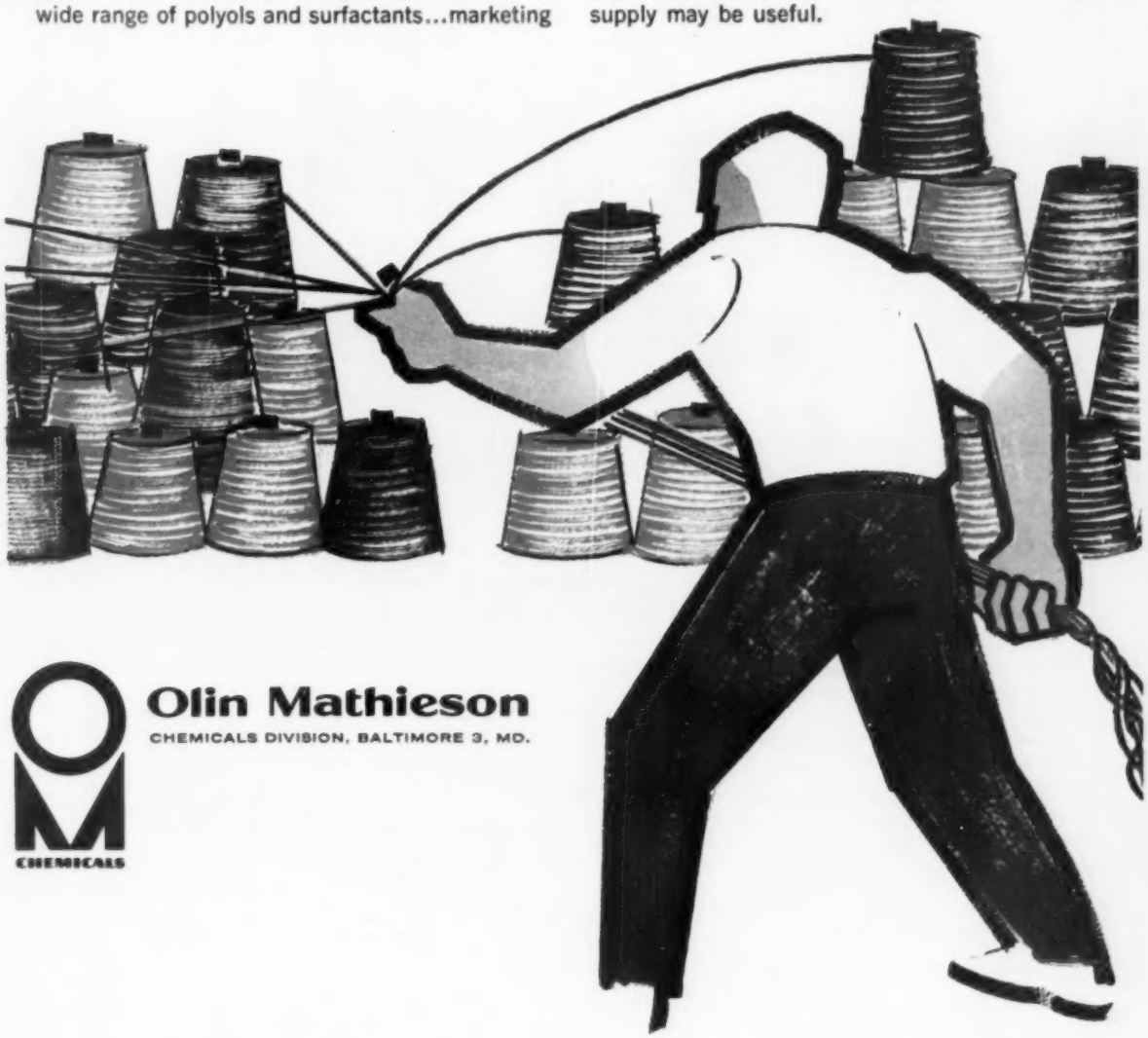

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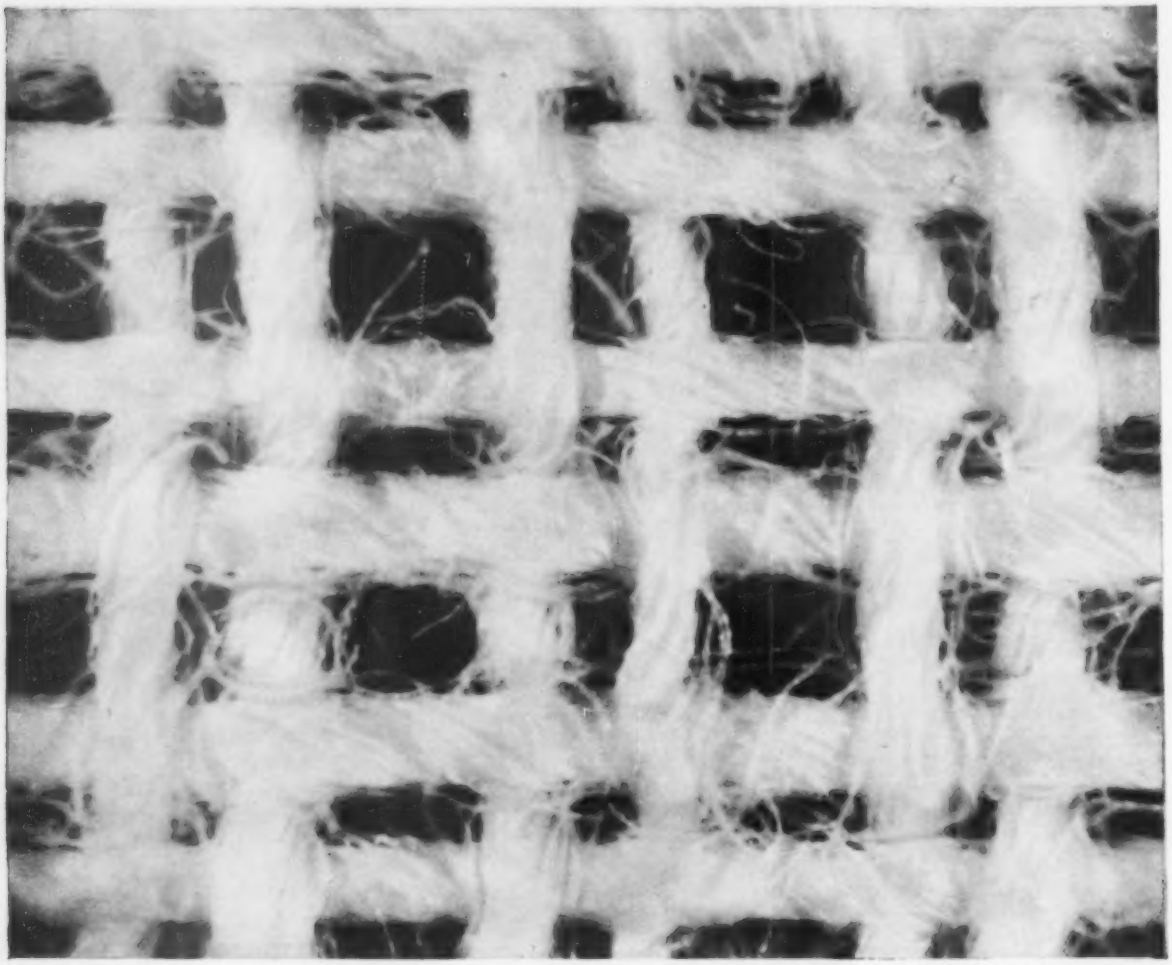

Photomicrograph of cotton bleached with hydrogen peroxide

High-white and handsome!

Textiles with high whites and handsome colors usually have the most eye appeal. Shell Chemical products play an important role in the production of today's attractive and useful fabrics.

Hydrogen peroxide, a rapid, economical bleach, also finds use as a developer for vat dyes. In the production of minimum-care cotton fabrics, Eponite® 100 imparts wrinkle resistance. It also is an ingredient in an antistatic finish for synthetics.

The cotton fibers shown in the picture were mercerized for added luster. Another Shell product, hexylene glycol, was used as a penetrant in this process. Glycerine is a mercerizing assistant and a moisturizer in pigment printing. Shell Chemical alcohols and ketones find use as resin solvents and dye dispersants.

Choose the chemicals for your own process requirements from the column at the right. A Shell Chemical representative will be glad to discuss your specific needs. Write or phone your nearest Shell Chemical office for samples and technical literature.

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TEXTILE WORLD

CHEMICAL TREATMENT AND FINISHING

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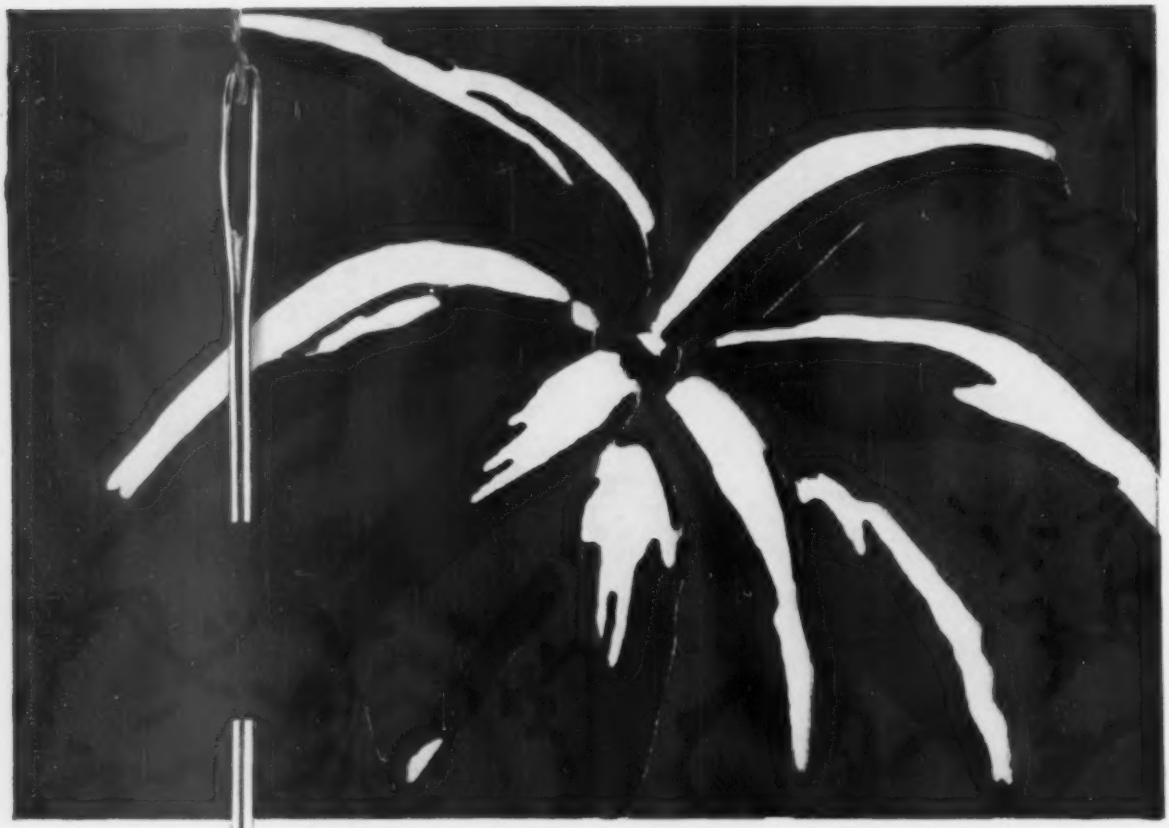

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News of the Month in . . .

Textile Chemicals

By ROBERT W. PINAULT, Associate Editor

Resins Fix Wool Dyes On Cellulosic Materials

German chemists have come up with a method of applying premetalized dyes to cotton or rayon that uses resins as a sort of mordant to bind dye to fiber.

The simpler resins such as urea- or melamine-formaldehyde precondensates are used to do the job. The dyebath should contain an acid or acid-forming substance plus the dye and the resin. The acidity of the dyebath must be regulated so that the resin precondensate does not polymerize during the application period.

The amount of resin that is used is generally equal to the amount of dye in the solution, but in any case should be at a concentration that leaves about 1% resin in the dyed fabric.

Useful acids and acid-reacting materials include boric, phosphoric, glycollic, tartaric, formic, and citric acids, and ammonium chloride and diethanolamine hydrochloride.

In a typical procedure, bleached and mercerized cotton fabric is padded at 50 to 70 C. with a dye liquor that contains 20 grams per liter premetalized dye, 90 gpl. dimethylolurea, and 4 gpl. of monoamonium phosphate. The padded goods are dried on a tenter at 120 C. and cured for 4 minutes at 150 C.

Washfastness of the dyeings is 4 to 5 on the Deutsche Echtheitskommission scale.

The process also lends itself to several other variations of dyeing and finishing in one run, including full crease-resistant finishes and water-repellent finishes. British Patent 843,720 to Badische Anilin-Und-Soda-fabrik gives more details.

Gaging Resin-Finished Goods By Counting Number of Crosslinks

Changes in the properties of cotton fabrics during treatments to produce wrinkle-resistance depend more on the number of crosslinks formed and less on their size and structure, say three USDA scientists.

Differences in the amount of strength lost in different treatments are due to differences in the amount of cellulose degradation caused by the catalyst systems used in the process, they say.

J. G. Frick, Jr., B. A. Kottes Andrews, and J. David Reid, of the Southern Utilization Research & Development Div., New Orleans, La., investigated the properties imparted to cotton fabric by three crosslinking agents of known effectiveness in producing wrinkle resistance. They tried to correlate changes in the various fabric properties with each other, with the degree of crosslinking introduced, and with the structure of the crosslink formed.

Three finishing agents used in the studies were dimethylol ethyleneurea, dimethylol urea, and formaldehyde. The dimethylol compounds are typical of the type of agents now in commercial use, while formaldehyde is an example of a crosslinking agent of smaller-than-usual molecular size. Zinc nitrate was used as the catalyst with all three agents.

With all three compounds, maximum crease recovery angles were obtained with a substitution of 0.04 to 0.05 crosslinks per anhydroglucose unit, but tearing and breaking strengths were reduced to different extents. Experiments showed that these differences were due primarily to cellulose degradation caused by the acidic catalyst systems.

The loss of strength that is common to wash-and-wear cotton fabrics is generally attributed to the crosslinking, which is usually considered necessary to produce wrinkle resistance. Better understand-

To Strip Dyes, Czechs Now Use Chloroform

If you're set up for it, you can use boiling chloroform to strip colors effectively from man-made or natural fibers.

A Czech patent (92,168) to Kvetoslav Hajek claims that even at room temperature, chloroform will strip color from man-made fibers. Reaction speeds up as temperature of solvent is raised. Suggested apparatus for the operation includes an enclosed processing tank and suitable reconditioning stills and condensers that permit reuse of chloroform.

Permanent Pleats Catch On in American Markets

The Australian Si-Ro-Set process for producing permanent trouser creases, or pleats in women's wear, is beginning to find a U. S. market. In men's wear, B. K. Kuppenheimer & Co. Inc. is now treating all its slacks by the process. And in women's wear, at least one California house is using the treatment on skirts, women's slacks, and dresses.

The process is based on treating wool with thioglycollic acid, and the reaction is similar to permanent waving of human hair.

ing of the causes of strength losses will be useful to researchers seeking to improve wash-and-wear.

Details of the experiments and of the results obtained are given in a paper, "Effects of Crosslinkage in Wrinkle-Resistant Cotton Fabric." Single copies of the paper may be obtained by addressing a request for Reprint No. 1983 to the Southern Utilization Research & Development Div., P. O. Box 19687, New Orleans 19, La.

Aniline Glucosides Cut Tendering of Fabrics, Replace Hydrochloride

Aniline hydrochloride is replaced by an oxidizable dye-forming N-glycoside of the amine in printing formulations of Farbenfabriken Bayer A.G., Germany, as a way of eliminating the tendency of aniline hydrochloride to tender fabrics.

Advantage of the N-glucoside is that the sugar that splits off during ageing protects rather than tenders the cotton fabric.

A typical formula is:

10 parts P-aminodiphenylamine N-gluoside
19 parts water
5 parts 2% ammonia
3 parts polyglycol ether
2 parts thiodiglycol
The above is stirred into:
50 parts 6½% gum tragacanth solution
5 parts ammonium chloride
4 parts sodium chlorate
2 parts 1% ammonium vanadate

Goods printed with this formula are aged for 10 minutes and soaped.

The process is applicable to cellulosic, acetate, polyamide, polyester, polyurethane, and polyacrylonitrile fibers.

Organophile Bentonite Absorbs Oils, Solvents

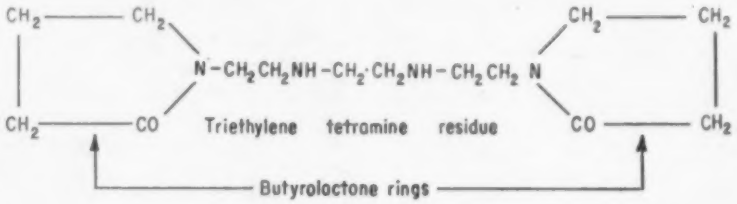
Bentonite that absorbs oils and solvents has been developed by the Colloid Chemistry Laboratory, University of Szeged, Hungary.

The product is finding wide uses in the manufacture of dyestuffs and lakes that are used to color oil paints.

Vat and Sulfur Color Leveling Agents Have Two Lactam Groups

Level dyeing with vat and sulfur colors can be had with the aid of new leveling agents. The new compounds contains at least two lactam groups, where pyrrolidone, an older leveling agent, has only one. The leveling effect of the improved products is great enough to level out streaky dyeings that are reprocessed with these agents.

A typical product of this type is made by reacting two moles of butyrolactone with one mole of triethylene tetramine to give:



The product has little surface activity, and so does not foam when it is used in the concentrations necessary to secure level dyeing. The compounds were developed and patented by Badische Anilin-Und Soda-Fabrik.

Germans Hit on a Method of Making Reactive Dyes with New Properties

Another method of making reactive dyes has recently been reported from Germany.

Certain azo and anthraquinone types of dye can be reacted to add one or more methylol groups, which under suitable conditions will unite with cellulosic, wool, or polyamide fibers. Usually the dye is applied along with a suitable catalyst, and after goods are dried they are cured at 150 C. to bring about the chemical combination of dye and fiber. The reaction is very similar to that produced in crease-resistant finishes.

Interesting side effects of adding methylol groups to the dyes is that washfastness of shades produced with them is generally better than for the unmodified dye, and greater depth of shade is often possible.

Dyes most suitable for the methylol-group addition include those with at least one solubilizing group such as sulfonic acid, sulfonic acid amide, carboxylic acid, or its amide, or similar radicals that have a hydrogen atom reactive toward formaldehyde under acid or alkaline conditions.

As an example, the azo dye made by coupling diazotized 1-amino-3-hydroxybenzene with 2-amino-5-hydroxynaphthalene-7-sulfonic acid can be given methylol groups by stirring in a 15% solution of formaldehyde at room temperature in the presence of caustic soda.

Dyes of this type are applied to cotton fabrics just as any other direct dye, but toward the end of the dyeing process ammonium nitrate is added to the bath to act as an acid donor in the subsequent drying and curing. The reaction between dye and fiber is completed during a five-minute heating period at a temperature of 145 C.

There appear to be valuable possibilities in this discovery, patented by Badische Anilin-Und Soda-Fabrik, because the chemistry of the reaction is relatively simple, can be applied to finished dyes.

Finishing Conference Will Stress Cotton Crosslinks

The Chemical Finishing Conference, to be held this year in Washington, D. C., September 28-29, will stress cotton-fiber structure and the crosslinking mechanisms that are brought about by the various resin-finishing processes.

In addition, three new nonresin finishes for easy-care cottons will be discussed, as will recent developments in soil- and stain-resistant finishes.

General chairman for the meeting is Godfrey Rockefeller, president, National Association of Finishers of Textile Fabrics, and president, Cranston Print Works, New York.

The conference is sponsored annually by the National Cotton Council of America.

Better Water Repellency With Improved Version Of Methylolstearamide

A well-known water-repellent process based on the methylol derivative of stearamide gives better results if the unreacted stearic acid in the compound is removed.

Investigation of methylol stearamides show that there is 5 to 8% of free stearic acid present, which reduces water repellency in the treated garment.

Get the free stearic acid down to less than 2%, and you have a better product.

The trick can be done by using an acid-free stearamide or by reacting the mixture in the presence of an organic solvent such as benzene or toluene. The solvents will preferentially retain free stearic acid.

The improved compounds are applied alone or with resins to get the desired effect. Normally, a 0.5 to 5% solution of the purified material plus an acid catalyst such as lactic or tartaric acid is used.

After a four-minute cure at 150 C., treated goods retain water repellency through laundering or drycleaning.

Latent Catalysts Have Own Reactive Effect

Catalysts based on the halogenated 1:3:5 triazines that are widely used to make reactive dyes have shown considerable promise as resin-curing accelerants.

Chemists at Imperial Chemical Industries, Ltd., modify the triazinyl compounds with a water-solubilizing group such as benzene or naphtholene sulfonic or carboxylic acid, but leave at least one halogen group free to provide the catalytic effect.

The new catalysts include sodium salts of 2-(4:6-dichloro-1:3:5-triazinylamino)-naphthalene-6-sulfonic acid and of 1-(4:6-dichloro-1:3:5-triazinylamino)-benzene-3-sulfonic acid.

It is claimed that resin finishes that include catalysts of this type are less sensitive to chlorine and more durable to laundering.

An improved catalytic effect can be produced by mixing equimolecular weights of the 1:3:5 triazinyl compounds with sodium thiocyanate.

Resin Mixtures Improve Pigment-Print Crocking

Exceptionally good resistance to wet or dry crocking is claimed for a pigment binder developed by Geigy S. A., Basle, Switzerland.

One or more of three types of resin are present in the improved print paste. These include a resin that may contain a fatty acid plus an ester, an elastomer based on synthetic rubber, and a water-insoluble, organic solvent-soluble thermosetting resin, such as alkylated urea- or melamine-formaldehyde resin. There is also a small amount of a water soluble amino-formaldehyde resin and a catalyst.

Suitable extenders and a catalyst are added to complete the paste.

The essential features of the mix are the unusually high proportion (18 to 35%) of amino-aldehyde resin in the binder and the small amount of water-soluble resin that activates the catalysts (tartaric, lactic, or glycollic acid).

Did You Know . . .

. . . that the demand for resin-finished cottons has nearly quadrupled in the past four years? According to Bureau of the Census figures, about 600,000,000 linear yards of cotton goods were resin finished in 1955. Last year, 2,363,000,000 linear yards were processed in this way.

■

. . . that the type of nip can have a large bearing on how resin is distributed in cotton or rayon fabrics? Japanese scientists find that in hard-squeeze, low pickup applications, resin content is largely within the fabric rather than superficially attached to the surfaces of the fiber.

The severe squeezing brings about better over-all effects with resins, just as it does with the old starch-and-oil finishes.

More details of the studies on resin distribution are available in the Journal of the Society of Textile Cellulose Industries, Japan, 16, No. 1:42-47, 47-50.

■

. . . that acid damage to wool during carbonizing can be greatly reduced by adding a nonionic surfactant to the sulfuric acid bath? Surfactants based on polyoxyethylene and carrying alkyl or aryl groups are generally effective.

■

. . . that if fresh, moist vat-dye pigment is ground with an inert solvent, particle size as small as 0.5 to 2 μ can be obtained? A suitable solvent is isopropanol, added to the dye paste on a 1 to 1 weight ratio. Ciba Ltd., Basle, Switzerland, developed and patented the process.

■

. . . that optical brighteners tend to make wool more yellow during exposure to light? Chemists think that the yellowing is due to decomposition of the tryptophane in the wool, catalyzed by the optical brightener, rather than a breakdown in the brightener itself.

■

. . . that the naked eye can distinguish differences in whiteness only if they are more than 10%? A spectrophotometric evaluation will cut this error to 2%.

What's New In Dyes and Chemicals

Vat Dye

Veranthrene Yellow F3GC Powder Ultrafine . . . is a homogeneous dye that produces bright yellow shades of high lightfastness that are further improved by resin finishing. The color will not cannibalize blues in green combinations and has generally good all around fastness properties. Verona Dyestuffs. **(Circle D-1 on Reader-Service Card)**

Disperse Dye

Foron Brilliant Blue GFLN Ultradispersed, Pat. . . . dyes bright lightfast shades on acetate, triacetate, and polyester fibers. The dye exhibits improved dispersibility and is stable at the boil. It is an improved version of Foron Blue GFL Ultradispersed Pat. Sandoz, Inc. **(Circle D-2 on Reader-Service Card)**

Softener

Ceranine PN . . . may be applied to polyacrylic-fiber fabrics at any stage of production. It gives a soft, lofty hand that is particularly suitable for bulk-yarn goods. The product has antistatic properties and is an aid in winding, weaving, and knitting. Sandoz, Inc. **(Circle D-3 on Reader-Service Card)**

Silicone Emulsion

Hamco Sil #2 . . . is a nonionic silicone emulsion designed to be used with thermosetting resins. The product resists laundering, drycleaning, and discoloration, and is not affected by chlorine. Hamilton Chemical Corp. **(Circle D-4 on Reader-Service Card)**

Carrier

Cyanatex Dyeing Assistant EM . . . accelerates the penetration of dye into the fiber at below the boiling point. The carrier is effective over a pH range of 5.5 to 9.5 and will remain so through most dyeing cycles up to 180 F.

The product is added directly to the dyebath; and because it does not affect lightfastness of dyeings, does not require a strongly alkaline afterscour to remove it after dyeing. Dyeings made with the carrier have good wetfastness and are fast to wet and dry pressing.

The carrier works well for polyester and triacetate fibers, and it is recommended that dyeing be carried out near the boil in suitably designed equipment. American Cyanamid Co., Dyes Div. **(Circle D-5 on Reader-Service Card)**

Fire Retardant

Fire Retardant C . . . produces nondurable flame resistance on all natural and most man-made-fiber fabrics. The product may be dried at high temperatures without yellowing or tendering fabric to which it is applied. A companion product, **Fire Retardant FCX** is recommended where extreme drying conditions must be met.

Both materials exhibit complete control of afterglow and are applied by simple pad-dry operations. Burkart-Schier Chemical Co. **(Circle D-6 on Reader-Service Card)**

Disperse Dye

Artisil Direct Blue BSR New . . . has similar fastness properties to Artisil Direct Blue BSR but is improved in respect to dispersibility and shows significantly less tendency to tarring. Sandoz, Inc. **(Circle D-7 on Reader-Service Card)**

Dyeing Assistant

Retarder M . . . is designed to promote level dyeing of acrylic fibers with basic dyestuffs. Recommended amounts to be used vary from 1 to 3%, according to shade. Light shades generally require the higher amount.

Dyebath temperatures should be brought to 160 F. as quickly as possible, then raised at a rate of 1 to 2 F. per min. to 212 F. to complete the dyeing. Hamilton Chemical Corp. **(Circle D-8 on Reader-Service Card)**

Antibacterial Finish

Germatize . . . is a liquid antibacterial finish that prevents growth of odor-forming bacteria on apparel fabrics. Protective effect against both Gram-positive and Gram-negative types of bacteria is excellent. The antibacterial effect is durable to at least 50 launderings or 25 drycleanings and the finish is not affected by chlorine, heat, laundry souring processes, or alkalis.

Application is by simple padding and drying procedures from baths that may include other finishing materials. Chemlab Sales Co. **(Circle D-9 on Reader-Service Card)**

Dye Fixative

Palo-Fix . . . improves the washfastness of dyed or printed direct colors without significantly affecting lightfastness. The product is cationic, does not affect the hand of the fabric, and can be applied in pad, jig, or beck. De Paul Chemical Co. **(Circle D-10 on Reader-Service Card)**

Cationic Softener

Atlas G-3573 . . . is recommended for use on natural or man-made-fiber fabrics. The product is a 100% active substance of light color that can readily be diluted to a 25% fluid dispersion for plant use.

The softener is suggested as an adjunct of crease-resistant finishes, with which it is compatible.

The 25% dispersion can be applied in the pad or by exhaustion methods in the jig or beck. From 1 to 3% on the weight of the goods is a suggested starting area.

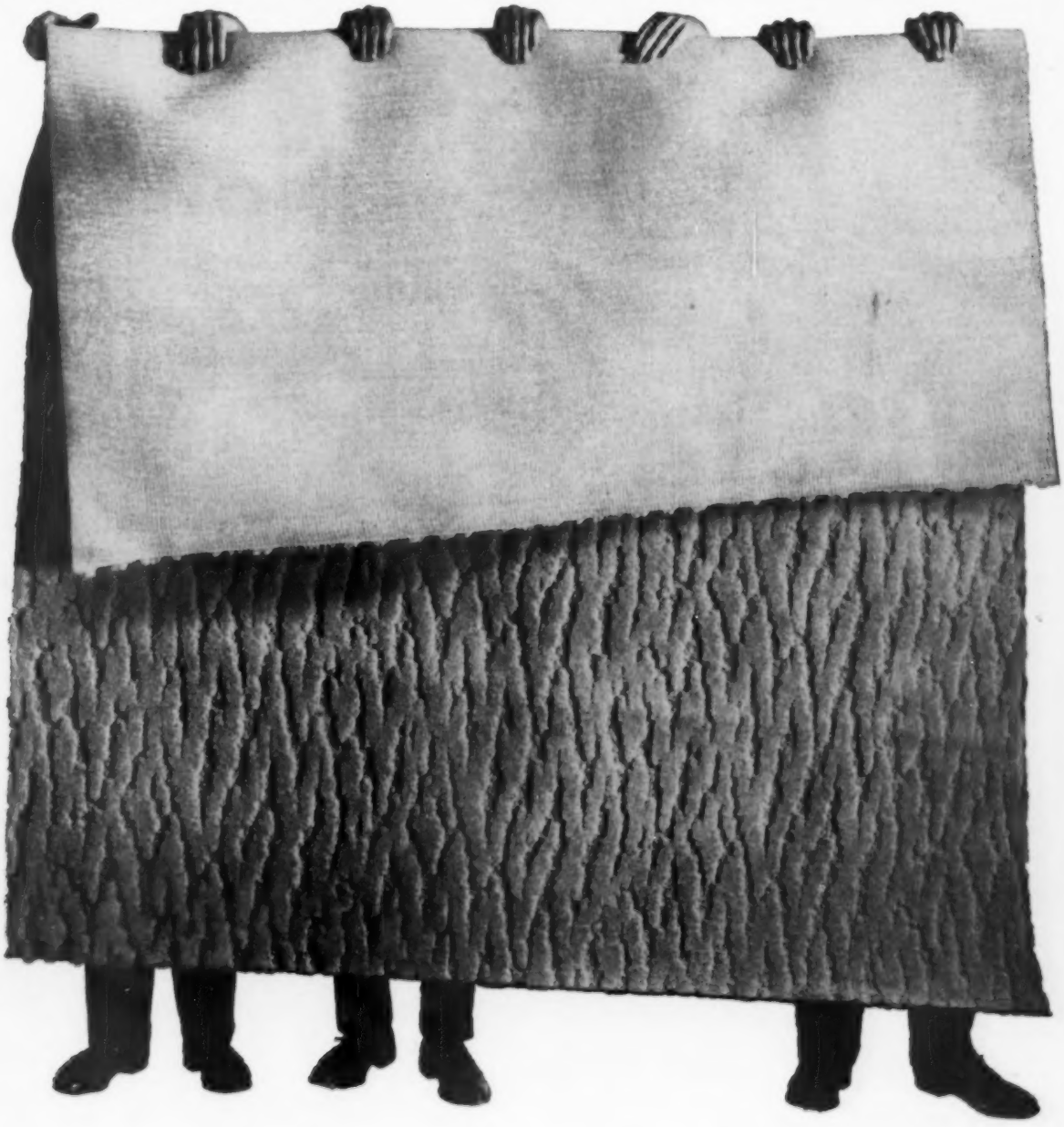
The 100% compound can be cut to the 25% dispersion by melting it at 175 to 185 F. in a jacketed kettle, then adding it quickly to water at 75 F. Atlas Powder Co. **(Circle D-11 on Reader-Service Card)**

Antistatic Agent

Palo-Stat PM . . . produces durable antistatic effects on man-made-fiber fabrics. The product resists many launderings and is only slightly affected by drycleaning, but is not claimed to produce a permanent finish.

The material has pronounced affinity for most man-made fibers, and can be exhausted from final rinse baths. There is no effect on lightfastness or shade. De Paul Chemical Co. **(Circle D-12 on Reader-Service Card)**

Give your carpet backings an extra "soft hand"



This carpet has been backed with a compound using a new DYLEX® latex from Koppers, one of a new series of formulations for backings which do not require vulcanization. Carpet backings made with these new latices have an exceptionally "soft hand" for today's better quality carpets. DYLEX latices give carpets superior bond and adhesion, more tuft-holding strength in both cut and loop pile, and greater flexibility. Because of their exceptional bonding strength, DYLEX latices can also be used as scrim adhesives.

New DYLEX latices need no vulcanizing agents of any kind, no accelerators. They're easy to mix, merely add fillers and a small amount of dispersant. You can use simpler, less expensive mixing equipment. These new latices give you a better-quality carpet backing at less cost. There's a DYLEX latex to suit the needs of your carpet backing compound. Write to Koppers Company, Inc., Plastics Division, Dept. TW 90, Pittsburgh 19, Pa.

KOPPERS PLASTICS

CIRCLE 73 ON READER SERVICE CARD 73

How the

Good designs, first-rate engravings, and skilled printings aren't any use if the color shop isn't running right. Here's how the department should be set up, how pastes are made, how various print-pastes behave.

By L. H. FERGUSON
Superintendent of Printing
Wade Mfg. Co., Wadesboro, N. C.

Shear-Flow Mixers

are most-used type of mixer in the modern color shop. These mixers stand between common propeller mixers and colloid mills.

YOU NEED just as much know-how in the color shop where printing colors are prepared for the machines as in any other branch of the art. A buyer may overlook a slight misfit. But if the colors clash or are dull, these faults are noticed immediately and the goods may be refused.

The colorist makes up the formulas and is responsible for the final appearance of the finished print. His helpers are the color mixers who blend the ingredients according to the formulas given them.

Usually there is one color mixer per print machine. In shops that have more than four machines, there is also a color-shop foreman and a man who prepares pastes and thickeners. One man can take care of print pastes for a four-machine plant working a 24-hr. day if he has adequate mixing equipment and storage space.

The ideal location for the color shop is directly in front of the printing machines. This proximity causes the color mixer to become an integral part of the print-machine crew; and the shorter the distance between machines and color shop, the better production will be.

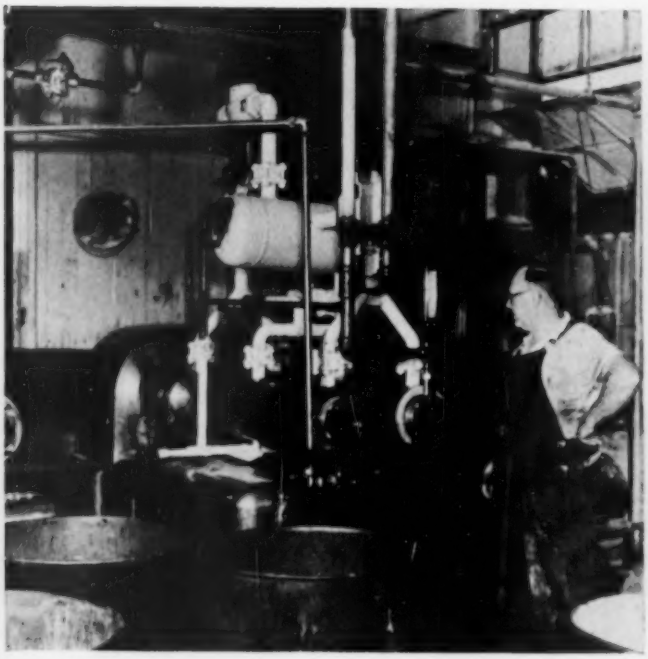
Most printers prefer a top-notch mixer to a top-notch back tender.

THICKENER TYPES

Dyes as such cannot be used in printing unless they are dissolved or dispersed in water that contains a thickening medium of some type.

The Rapidogens, vats, Indigosols,

Color Shop Works



Votator

is useful in preparing cooked thickeners, mainly corn starch. One unit gelatinizes the starch and the other refrigerates the mix to room temperature. Process is continuous.

Hand-Straining

is final step in getting print paste ready for the machine. In this case a pigment emulsion is being strained to eliminate foreign matter that might scratch roller.

chrome, naphthol, salt, diazotized-base colors, aniline black, and other true dyes may be thickened with starch-base gums, cold-water-soluble gums, proprietary products, and emulsions.

The cooked gums can be prepared in a machine called a Votator, which continuously takes in a slurry of gum and water and delivers the cooked gum chilled to room temperature. Refrigeration may be added to bring off the cooked gum solution at near the freezing point.

The cold-water gums are usually pasted with the aid of a high-speed propeller mixer. Homogenizer-type mixers are not recommended for these gums because they entrain too much air.

There are prepared gums on the market but their cost is somewhat higher than cold-water gums and a great deal higher than cooked gums. Most of the prepared gums have a very high viscosity and are useful in the printing of mercerized broadcloths and poplins where it is desirable to retard penetration of color in order to produce a smooth, level surface print.

The prepared gums are also capable of printing highly detailed engraving without breaking up the fine lines. They are also very useful in the printing of discharge patterns, especially on white discharges where a minimum of penetration is wanted.

The prepared gums are not used extensively on napped goods because they tend to mat the nap

and to build up on the nip rolls of the open soapers and on the shoes of compressive shrinking machines. It is good practice to keep one of these gums in stock to use where print-paste viscosity must be increased without upping volume.

EMULSIONS TAKE HOLD

Most of the true dyes like those previously mentioned are often thickened with emulsions similar in concept to those used for pigment printing. The Rapidogen-type colors sometimes present difficulties when they are used with emulsions because of the solvents and other chemicals that are needed in the mix, but these troubles are easing.

Emulsions are generally prepared in homogenizer-type mixers. The emulsions have several advantages over some of the older thickeners, one being that they produce a surface print similar to water-phase pigment colors; also, they print with a sharper mark and with less ground staining.

PICK A THICKENER

The choice of a thickener is determined by the colorist, who works closely with the printer to produce a good-running paste. Cost is an important factor, and the money-value of a gum rather than its price per pound is the right basis to work from in this respect. Often twice as much of a low-priced gum may be required to get the same effect as a somewhat higher-priced gum. Also, a more expensive gum may actually be a better money value because it increases color yield per pound of dye-stuff.

Broadly speaking, all dyes cost a great deal more per pound than any gum; so it is obvious that price per pound alone should not determine the choice of a gum.

The labor needed to prepare a thickener is also a factor in the total cost, and thickeners that are sensitive to the chemicals needed in some dye mixes should be avoided.

Another point that has to be considered is the effect of the thickener on fabric hand. Thickeners that don't wash out easily—that make the goods stiff—are outmoded today and are little used.

PIGMENT EMULSIONS

Emulsions for pigment printing are generally in a class by themselves. The most efficient method of preparing the clears or extenders is to have a premix tank that will handle at least 150 gallons.

The clear may be premixed with a propellor mixer or a homogenizer-type mixer, and is then put through a colloid mill with a fine setting and pumped to a storage tank.

The water-in-oil, or oil-phase colors as they are called, are benefitted and the emulsion is tightened by passing through the colloid mill. With oil-in-water, or water-phase clears, the colloid mill is not necessary or at least is a questionable expense. Excellent water-phase clears can be prepared with propeller or disk-type mixers.

In either case, the clear and colors should be mixed in a homogenizer-type mixer to get the best dispersion, highest color value, and best running qualities. In recent years, great strides have been made in the pigment-printing field with respect to improved fastness to crocking, scrubbing, washing, and chlorine. And the running qualities have been much improved.

Lightfastness of the pigment colors is of course good, and some can stand up to 300 hours Fade-O-Meter without breaking even in pale shades.

Each type of emulsion has some advantages. Oil-phase emulsions will give the most coverage with a given depth of engraving, and extreme coverage and penetration can be obtained with an ethyl cellulose clear. But this clear will not give as good wash and scrub fastness as the alkyd-resin clears.

Oil-phase colors are less brilliant than water-phase colors, and their crockfastness is inferior. But in light or medium shades, the oil-phase colors are generally cheaper to use where crocking isn't much of a problem. For dark shades where crocking is critical, the water-phase colors have proved to be cheaper when crocking is equalized between the two systems.

The oil-phase colors, where they are modified to produce a low crock, become extremely viscous and have a tendency to run dry on the print roller. They are also very difficult to wash out of blankets, backgrays, and other equipment.

The water-phase colors are easily removed from such equipment provided no heat is applied prior to washing.

The water-phase colors print a sharp mark, quite often too sharp for a given engraving, and have a tendency to foam. The latter fault has been overcome to a great extent by the manufacturers.

Water-phase colors tend to be hard to lubricate in the machine and may cause considerable downtime and printing imperfections. However, some manufacturers have standardized their water-phase clears so that good running qualities can be expected.

At this time, both water-phase and oil-phase colors appear to be necessary to a successful printing operation.

One reason for this is that an oil-phase color—say a yellow—may be printed directly ahead of a water-phase blue with very little danger of contamination of the blue by the yellow. But if both colors are in the same phase, you can expect contamination.

In most cases, a water-phase color printed ahead of an oil-phase color will cause trouble because the emulsifying agent in the water-phase color will carry over and break the oil-phase emulsion. When it is necessary to print in this sequence, a "weeper" or lint doctor on the oil-phase color roller will permit running the water-phase color ahead of the oil-phase color. If both colors are in the same phase, a lint doctor on the darker color will help prevent taildowns from the dark color into the lighter one.

It is also better to print an oil-phase color immediately ahead of or immediately following a Rapidogen-type color to keep contamination to a minimum.

The tendency of water-phase colors to mat down the nap on flannels is considered to be caused by the breaking of the emulsion on contact with the cloth. The cloth has more affinity for the water than the oil content; and the water phase carries the color, a low-crock agent, and a melamine resin that are soaked up by the fiber. The suc-

emulsions

the perfect mixer. Piccopale emulsions fortify and improve the important properties of latices, resin emulsions and other water-based systems. Available in a variety of grades, these emulsions are broadly compatible, water and alkali resistant, provide excellent adhesion and pigment binding, are low in cost and available in abundant supply.

The trademark of quality

PENNSYLVANIA INDUSTRIAL CHEMICAL CORPORATION
CLAIRTON, PENNSYLVANIA

CIRCLE 77 ON READER SERVICE CARD

ceeding print rollers hold the nap down until a cross-link is formed between the melamine resin and the low-crock agent. The latter is usually an acrylic resin or a synthetic rubber.

This condition seldom shows up on flannels if the water-phase color is printed last. Tightening up the emulsion by putting it through a colloid mill sometimes helps to stave off cross-linking of this type.

A long, full nap is less likely to mat down than a short nap because the long nap retards penetration of the water phase into the fiber. Most low crocking agents tend to form rubbery aggregates while they are in storage, particularly if opened containers are exposed to the acid atmosphere common in print shops. These small particles can cause snaps and streaks in the pattern; so it is good practice to strain the low-crock agent just before mixing it.

GOOD VAT YIELDS

Vat colors are expensive. That's why it's important to get the utmost color value from them.

One way to insure good yield is to pre-reduce the colors before printing. The stock color is reduced by adding hydrosulfite, potassium carbonate, and glycerine (as a humectant).

The mix is warmed to 140 F. and then cooled before use. Color prepared in this way will give 10 to 15% more color value than unreduced dye, and the shades are somewhat brighter. However, the extra handling cost has to be balanced against these advantages, and there is a certain amount of unavoidable waste. So any "savings" should be carefully scrutinized for validity.

Good color yields are often the result of using the right thickener with a vat (or any other) dye.

Also important is the use of the best hydroscopic agent and a correct balance between dye and reducing chemicals. During steaming, the reducing agents convert the vat dye to its leuco form and it leaves the thickener to attach to the fiber.

CHROMED ROLLS

Chrome-plated print rollers work best with vat colors because there is a minimum of electrolytic effect between the doctor blade and the chromium. If copper rolls are used with vat colors, an electrolytic effect is set up that transfers copper from the print roll to the doctor blade, which often produces scratch-like marks in the pattern similar to those caused by foreign matter in the print paste. The electrolytic effect can be stopped by insulating the doctor from the copper roll by putting a piece of cloth between the blade and the shear.

CHANGING COLOR TYPES

A few years ago, the leuco esters of vats, marketed by one firm as Indigosols, were very popular. Print pastes including these dyes contained various chemicals to aid in the acid-ageing process that followed printing. During the ageing, the soluble vat-dye ester was converted to the insoluble vat dye. The acid-ageing process and the sulfuric acid-sodium nitrite process (wet developing) are both hard on operating equipment.

Indigosols and Rapidogens can be printed side by side, or even mixed, because they are both developed by the acid ageing process. However, the rapid increase in the use of the pigment-emulsion colors has mostly eliminated the soluble vat-ester types. The same fate has overtaken the mordant, or chrome colors, and lightfast direct colors, once very big on drapery fabrics, have now been replaced by pigment colors.

Aniline black is still much used because it is cheap, produces the blackest of blacks, and has good over-all fastness. But it is no favorite of printers because of its notoriously bad running qualities. However, a good colorist can produce aniline-black formulations that minimize bad points such as pitting of the doctor blade.

LUBRICATION FACTOR

Any print paste carrying any type of color should have good lubricating qualities if it is to run well.

Correct color formulation the first time around is important to good lubrication. A high-solids content in vat and Rapidogen print pastes is essential to good maintenance of a good film between doctor and print roller.

Where cooked thickeners are used, it is important the absolute minimum of liquid be added after the gum is cooked. Water added after cooking will not be properly absorbed by the gum, and the paste will lose body and lubricity. Friction cuts can be expected from print pastes in this condition.

Proprietary additives designed to aid lubricity are expensive. A light mineral oil, cooked into the gum, will provide adequate lubrication in most cases. The cold-water gums seldom require added lubricants; but in flannel printing, a small amount of methanol added to a cold-water gum paste lowers surface tension and makes the print roller very slippery. Loose nap has much less tendency to stick to the slick roller, which is a considerable advantage to say the least.

Oil-phase pigment emulsions generally have sufficient built-in lubrication because the oil is the outside component of the emulsion, but water-phase emulsions are just the reverse and require additives to run well. Triethanolamine, glycerine, and thiodiglycol are helpful lubricants for water-phase emulsions. Thiodiglycol is also very useful as a lubricant in aniline black pastes.

Regardless of the lubricity of the paste, one of the best guarantees for trouble-free operation is a good, hard, well-buffed chromium plate on the print roller. A highly polished surface presented to the doctor blade is much less apt to give the printer trouble from streaks and snaps.

KEEPING QUALITY HIGH

The colorist should see that all equipment such as mixers, tubs, and dippers are kept clean to avoid dull shades and maintain uniformity.

Modern materials such as stainless steel and fiberglass make cleaning simpler than when wood and plain steel were the common materials of construction. High-pressure hoses knock off loose color from non-absorptive materials easily, although a little scrubbing of dried-out color may be necessary at times to do this job.

(Editor's note: *This completes the three-part series on Principles of Roller Printing. In an early issue, Mr. Ferguson will discuss neutral and acid-ageing processes.)*

Geigy Dyestuffs for Dacron® Men's Wear....

Geigy offers a range of Setacyl "P" Dyestuffs specifically designed for polyester fibers and men's wear fastness.

Reducing agents have come a long way in recent years. Here's a rundown on the older types and the newest all-purpose materials.

What you should know about REDUCING AGENTS

By A. J. HALL, B. Sc., F.R.I.C., F.T.I., F.S.D.C., Consulting Chemist, Somerset, England

OVER 240 years ago, chemists discovered that iron dissolves in sulfurous acid to give a yellow solution from which no hydrogen evolves. About 80 years later, they noted a similar effect when zinc was treated with sulfurous acid.

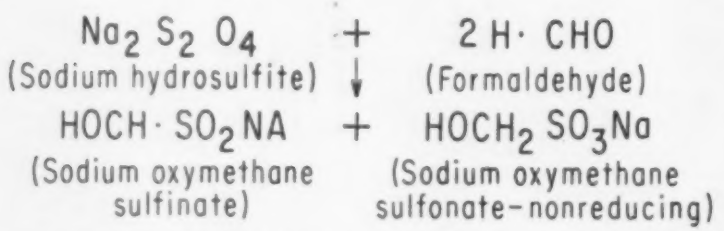
The reaction led to the development of sodium hydrosulfite, which was soon put to work in reducing indigo so that it would be applied to cotton fabrics.

But sodium hydrosulfite as such is too unstable to be much good for reducing other vat dyes. Then, at the turn of the century, chemists found that by mixing sodium hydrosulfite with formaldehyde, they could make a usefully stable product. From this stabilization came two new products—sodium oxymethane sulfinate and sodium oxymethane sulfonate (diagram below).

The sulfinate has strong reducing power and is familiar to dyers as Rongalite. The sulfonate is nonreducing, and improved manufacturing methods (that today are widely used) were developed that eliminated the formation of this product in the reaction.

The modern reaction is done with zinc dust that is exposed to a solution of sulfur dioxide and formaldehyde. When the reaction is complete, caustic soda is added to precipitate the zinc or the oxide, and the solution is filtered. Evaporation then produces the familiar dry powder, sodium oxymethane sulfinate.

The product is fairly stable, but on sufficient exposure to air there is a chance that the sulfinate may oxidize and form acidic substances that attack cellulosic fibers. Substitution of the sodium for less-soluble zinc produces a more-stable product that minimizes this trouble.



REDUCING (left) and non-reducing agents came from this reaction until way was found to eliminate latter.

FINDING REDUCERS

The Rongalite type of reducing agent works well in alkaline mediums and is quite suitable for cellulosic fiber dyeing or printing. But to alkali-sensitive fibers like secondary cellulose acetate, the alkalinity of a vat-dye print paste based on Rongalite causes weight and strength losses by saponification.

One answer to this problem is to

use thiourea dioxide, which will work under acid conditions. Although not all vat dyes respond to this reducing agent, there is sufficient range in the indigoid, thioindigoid, indole-naphthalene indigoid, and some anthraquinone types to meet most requirements. Color yields are very good, and the usual good fastness to light is produced if the goods are soaped after dyeing at over 60 C.

Thiourea dioxide is also valuable in the discharge printing of acetate, silk, or woolen goods that are sensitive to alkali. Polyethylene glycol is usually added to such pastes to induce fiber swelling and maintain good moisture content in the fiber.

With this system of printing, the vat dyes are presented to the fiber in their vat-acid leuco form and for this reason are absorbed by polyester, polyamide, and acetate fibers but not by cellulosic material.

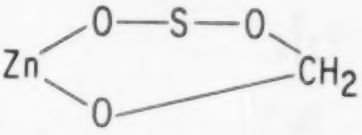
It is possible to get solid-shade effects on acetate-cotton mixtures by adding leuco vat esters such as the Indigosol type of dye to printing pastes that have thiourea dioxide as the reducing agent; but as with sodium oxymethane sulfinate, there is a chance that too much acidity will develop and the cellulosic fibers will be damaged.

AMINES AND ACIDITY

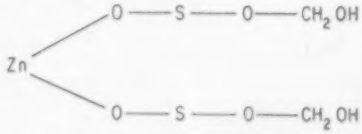
More recently chemists have found that the excess acidity of mixtures such as those described above can be controlled by adding certain aromatic or alithatic primary, secondary, or tertiary amines to reducing agents based on a salt of oxyalkyl sulfinic acid. This newer conception has the advantages of being cheaper and of giving excellent color yields with ordinary vat dyes. The mixture is also stable.

All-purpose reducing agents of this type are described in British Patent 829,936 to Badische Anilin Und Soda Fabrik. The pastes contain an amine such as ethylene diamine, triethanolamine, cyclohexylamine, dodecylamine, and so on, plus the calcium, barium, or zinc salts of oxymethane, oxyethane, or oxybutane sulfuric acid. The amines aid the absorption of the reduced vat dye by the cellulosic fibers and the low solubility of the Ca, Ba, and Zn salts of the sulfinic acid aid in resisting air oxidation.

There are two forms of the zinc salt. Normal salt is:



There is also a secondary salt that has the formula:



The latter is preferred for print pastes buffered with amines.

Some examples of print pastes of this type are given below:

- **Acetate fabric**—green vat discharge pattern on a red ground shade.

Green vat dye	**30 parts**
Benzylsulfanilic acid (dye dispersing agent)	**30 parts**
Secondary zinc salt of oxymethane sulfinic acid	**100 parts**
Polyethylene glycol	**60 parts**
Cylohexylamine	**50 parts**
33% Crystal gum thickening	**500 parts**
Water	**230 parts**

The acetate fabric is first dyed with a red disperse dye (azo type) and is then printed with the above green discharge paste.

After drying, the fabric is steamed for 10 minutes, rinsed, and then oxidized at 50 C. in a bath containing 3 parts of hydrogen peroxide and 2 parts of ammonia per 1,000. It is then rinsed, soaped above 50 C., rinsed, and dried.

Viscose rayon fabric—Green vat dye pattern on white ground.

The printing paste for this is prepared with:

Green vat dye	**50 parts**
Benzylsulfanilic acid sodium salt	**30 parts**
Calcium salt of hydroxyethane sulfinic acid	**100 parts**
Triethanolamine	**60 parts**
Polyethylene glycol	**60 parts**
33% crystal gum thickening	**450 parts**
Water	**250 parts**

The rayon fabric is printed, dried, steamed for 8 mins. in a rapid steamer or 10 mins. in a star steamer, rinsed, oxidized as in the previous example at 50° C. but in a liquor containing three parts of hydrogen peroxide and two parts of acetic acid, rinsed, soaped, rinsed, and dried.

Nylon 6 fabric—Blue vat discharge pattern on a yellow ground.

The blue discharge printing paste is prepared as in the first example for acetate fabric except that an indigoid blue vat dye is used.

The nylon fabric is dyed with a violet neutral-dyeing azo premetallized (chromium) wool dye, dried, and is then printed with the discharge paste, steamed, oxidized, and soaped as described above.

Wool fabric—A green vat discharge pattern on a yellow ground.

The wool fabric is first dyed with a yellow azo ordinary pre-metallized (chromium) wool dye, dried, and is then printed with the green printing paste described above for printing viscose rayon fabric, steamed, oxidized, and soaped.

The original stabilization of sodium hydrosulfite with formaldehyde and later recognition of the chemicals formed by this reaction paved the way for the later work of modifying the oxyalkyl (methane) sulfinic acids to produce a reducing agent with far greater scope than the original compounds.

SOME PERFORMANCES HAVE NEVER BEEN EQUALLED—

STANDARD FOR SKYSCRAPERS—Reaching majestically 102 stories and 1,250 feet into the sky, the Empire State Building is the world's tallest. In addition, a 222-foot television antenna towers above the building. Revolving searchlights installed on the 90th floor can be seen 300 miles away. More than 1,000,000 people visit the observation floor annually.

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Someday someone may build a taller building than the Empire State Building —but it hasn't been done yet. And someday someone may invent a better all-round blending ingredient where high solvent performance is required.

Pine oil, of course, adds much more. Its wetting properties, bactericidal properties, and safety are well-known.

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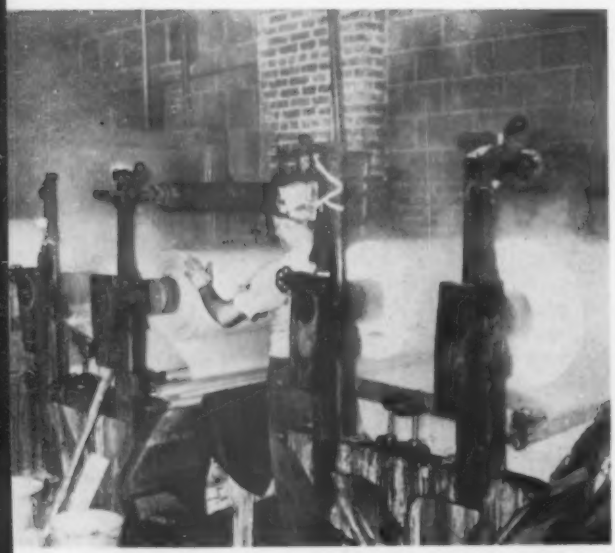
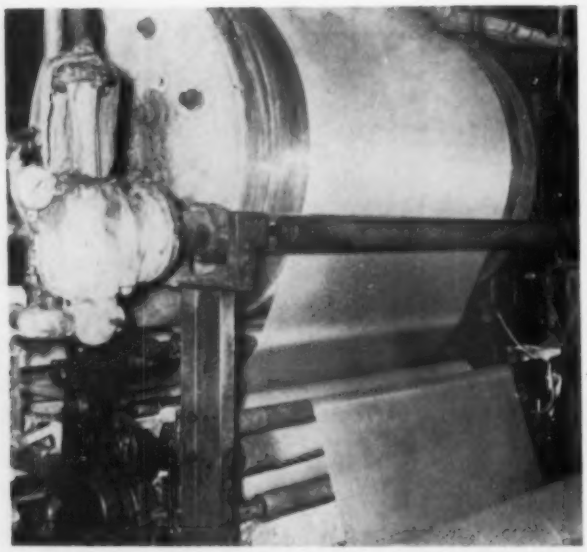
Colonial Piece Dye Works, Inc., is capitalizing on its nearness to the New York market, though cost pressures have caused some others to flee.

This Dyer Bucks a Trend . . .

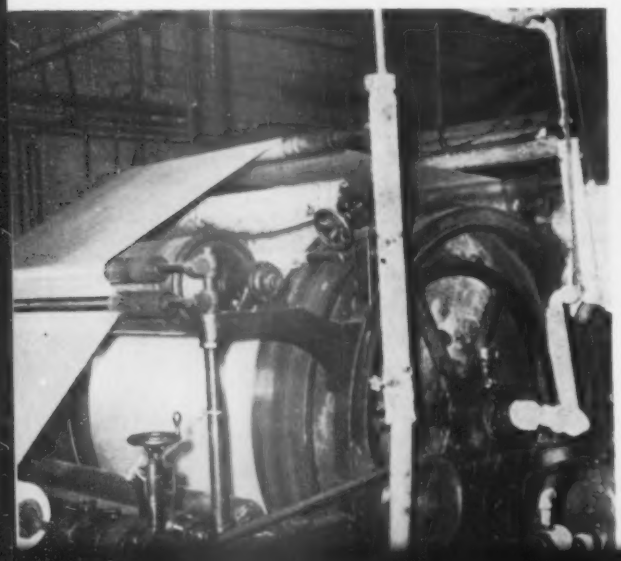


ORDINARY JIGS, which have automatic spreaders, handle a great proportion of Colonial's work. Nylon uniform goods are getting pretreatment here.

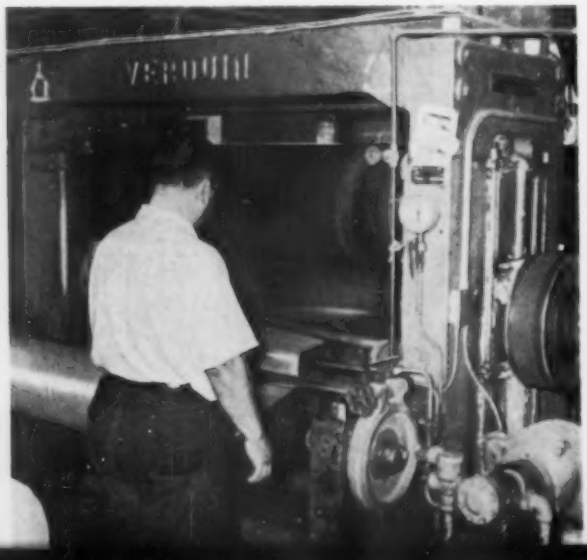


ENTERING END of finishing range has a large steam-heated can that boosts drying speed, plus a light pad with which to apply finishes to cloth.

DELIVERY END of finishing range is a Palmer unit, which Colonial uses without a blanket. Gas burners under tenter help boost drying speeds.



WOOL-FELT BOWLS on this Verduin 60-ton hydraulic calender produce extra soft hand, smooth surfaces on fabrics. Usual pressure: 30-40 tons.



Stays Close to His Market

IT TAKES a peculiar combination of qualities to stay in the commission dyeing business in the metropolitan New York area these days. But it's just such a combination of qualities that keeps Colonial Dye Piece Works, Inc., of Paterson, N. J., in the thick of things.

Dean M. Lewis is the man who heads up Colonial. He's been running his dyeing business since 1932 —in the same place, too. Colonial has managed to thrive and prosper while many other plants in its area have come and gone. You get a pretty good idea of how much the tide has ebbed in these figures: The labor force in the Paterson area has shrunk from over 11,000 in 1933 to about 4,000 today.

In the face of that kind of business climate, how has Colonial managed to stay put—and prosper? Give credit to know-how and hard work —two old but eminently practical qualities that succeed where mere competence does not.

Take Colonial's know-how, for instance. President-Treasurer Lewis has been a dyer since 1918. He knows dye chemistry from A to Z. And as for hard work, both Lewis and his son get to the plant when the first shift shows up, which is at 7 in the morning.

With the changing technology of dyeing and the changing nature of fibers, Colonial has been able to adjust easily. When silk began to fade out of the picture and man-made fibers came in, Colonial was prepared for the new materials, made the most of them.

Today, Colonial handles nylon, Dacron, and Dacron-cotton blends with equal aplomb. Among them, these fibers and blends account for the bulk of Colonials production.

STAYING NEAR MARKETS

"The big advantage we have here in Paterson is our closeness to the New York converters," Lewis says. "A secondary advantage is that we are set up to handle smaller lots and specialties that the big integrated outfits don't want to bother with. These two factors give us a slight edge that makes the difference between profit and loss."

Colonial's biggest yardage goes into nurses' uniforms, shower curtains, draperies, and uniforms for domestic help. A good bit goes into casket lining.

A standard nylon uniform fabric is based on 200-denier yarns and counts 68 x 52. Colonial bleaches and dyes these goods on jigs in 2,000-yd. rolls. Primary bleaching material used for these goods is sodium perborate. The process is based on four to six ends on the jig at 180 to 200 F., and up to 5% of perborate (based on fabric weight).

Any goods going into light shades are also bleached so that the colors will come up clear and bright. Colonial uses acid dyes for the most part to get medium and dark shades.

Trouble with barré and warp streaks is slight, primarily because the goods are made from low-twist, well-relaxed yarns that dye evenly. Bright pastel colors, favored for some uniforms and the shower-curtain trade, are produced with neutral-dyeing acid dyes. For these, the bath is started at a neutral pH, and the goods are run four to six ends to get complete penetration and even distribution of color as possible. Then the bath is exhausted by adding 2 to 3% of acetic or formic acid.

Colonial uses logwood, one of the oldest natural coloring materials, to produce a deep, bleed-proof black on nylon uniform fabrics. Colonial experimented with logwood in the form of the crystalline hematein and a heavy paste, but finally settled on using a 25% solution of hematein.

Getting a good logwood base on nylon is a slow process that may take as much as 9 hours from start to finish. From 12 to 15% of hematein will give a good black.

DEVELOPING SHADE

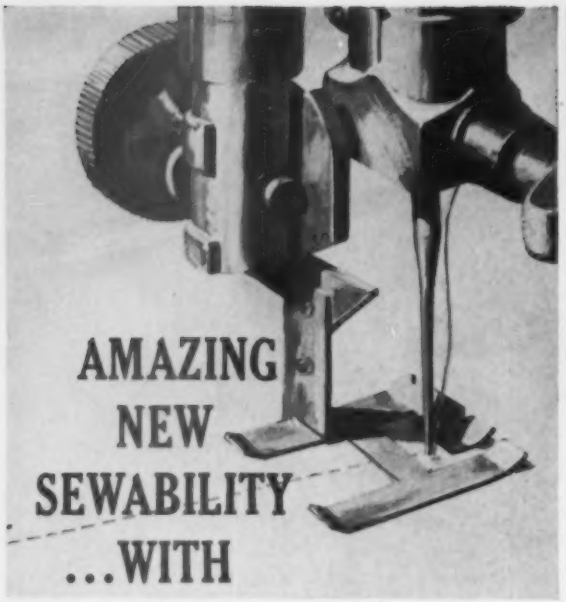
After the base goes on, the shade is developed by treating the goods with sodium bichromate. This oxidizes the hematein from a light brown to a true black. A thorough soaping at the boil follows oxidizing and rinsing, and the goods are ready to be finished.

Blacks produced in this way are especially suitable for uniforms that are made up with white collars and cuffs, because a logwood black will not bleed off.

STABILIZING WITH HEAT

Heat treatment to stabilize the uniform goods at ± 1% shrinkage is part of the finishing process.

Colonial uses a roller-type heat-setting machine for this job. Setting temperature is 390 F. for nylon. Colonial applies softeners or delustering agents in a pad-tenter range equipped with a Palmer. These finishes are not permanent but add initial appeal to the fabrics. Where extra drape and luster are required, the goods go through a 40-ton Verduin hydraulic calendar, and are then ready for examination.



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Fast, Efficient High-Temperature Dyeing

You'll find high temperatures in package- and skein-dyeing are helpful in finishing a wide variety of yarns. Heres a rundown on current practices that cut dye time as much as 50%, produce more level work.

HIGH-TEMPERATURE dyeing for packages or skeins of yarns helps to overcome many of the problems presented by fiber characteristics, the physical condition of the package, and common variations in dyestuffs.

Since their beginning about 1948, high-temperature dyeing machines made in the United States or Europe have been constantly improved to overcome design faults that show up only when a machine is put into production.

High temperatures up to 280 F. are possible in modern machines, but actual dyeing is not done at this level. Dyers find that 240 F. is about the maximum working temperature for best results on man-made fibers. Direct or developed dyes on cotton work best at 230 F.

RISING TEMPERATURE

When the dyebath is raised substantially above 212 F., several differences are noticeable in the behavior of the dyes and the manner in which all fibers react to them.

Dyestuffs diffuse into the fibers more readily at 240 F. than at 212 F., and often dyes are more soluble at the higher temperature.

The polyamide, polyester, and acrylic fibers are more receptive to dye at high temperatures, which eliminates the need for carriers and promotes level dyeing.

The swelling of rayon yarns can be materially reduced by pretreating rayon cakes in saturated steam at 30 to 45 psi., or 270 F. This practice reduces the complications that arise from uneven tension within cakes and between cakes and widens the range of dyestuffs that may be expected to produce level dyeings.

Similar benefits occur if the rayon is pretreated in water at 280 F. at a neutral pH.

The actual dyeing process on rayon produces better results when it is done at well above the boil.

As an example, a 1% dyeing of Brown BR at 190 F. on 1½-lb. rayon cakes gives extremely unlevel results; but at 225 F. this dye produces a good solid dyeing all through the cake.

LEVELING DYES

Unlevel dyeings of disperse dyes on nylon can be leveled out if the packages are retreated with an anionic dispersing agent at 240 F. The pH should be about neutral, and shading color can be added during the 1-hr. treatment. The color migration induced by the high temperature levels the original dyeing.

Acid colors and premetallized dyes do not respond so well to this treatment. Level dyeings with these colors can be obtained by using a fatty alcohol and TSP in the dyebath, which is worked at 240 F.

Nylon is sensitive to overoxidation and may lose up to 50% of its tensile strength if compressed air is used to maintain static pressure in the dye vessel. For that reason, it is advisable to use nitrogen in place of air to produce the required static pressure.

One Swiss commission dyehouse has developed high-temperature machines expressly for dyeing wool tops, stock, and packages. These machines have a heat exchanger that will cool or heat a 550-lb. load of wool in 20 mins. by 90 F. The usual heating coils require about twice as long and do not supply as even a temperature all through the lot as the heat-exchanger system. Dyeings on wool seldom exceed 230 F., to avoid fiber damage. Muffs of high-bulk man-made fibers are also easily dyed on these high-temperature machines.

The machines are equipped with compartmented pumps that provide improved flow and cut power costs.

SKEINS AND TAPES

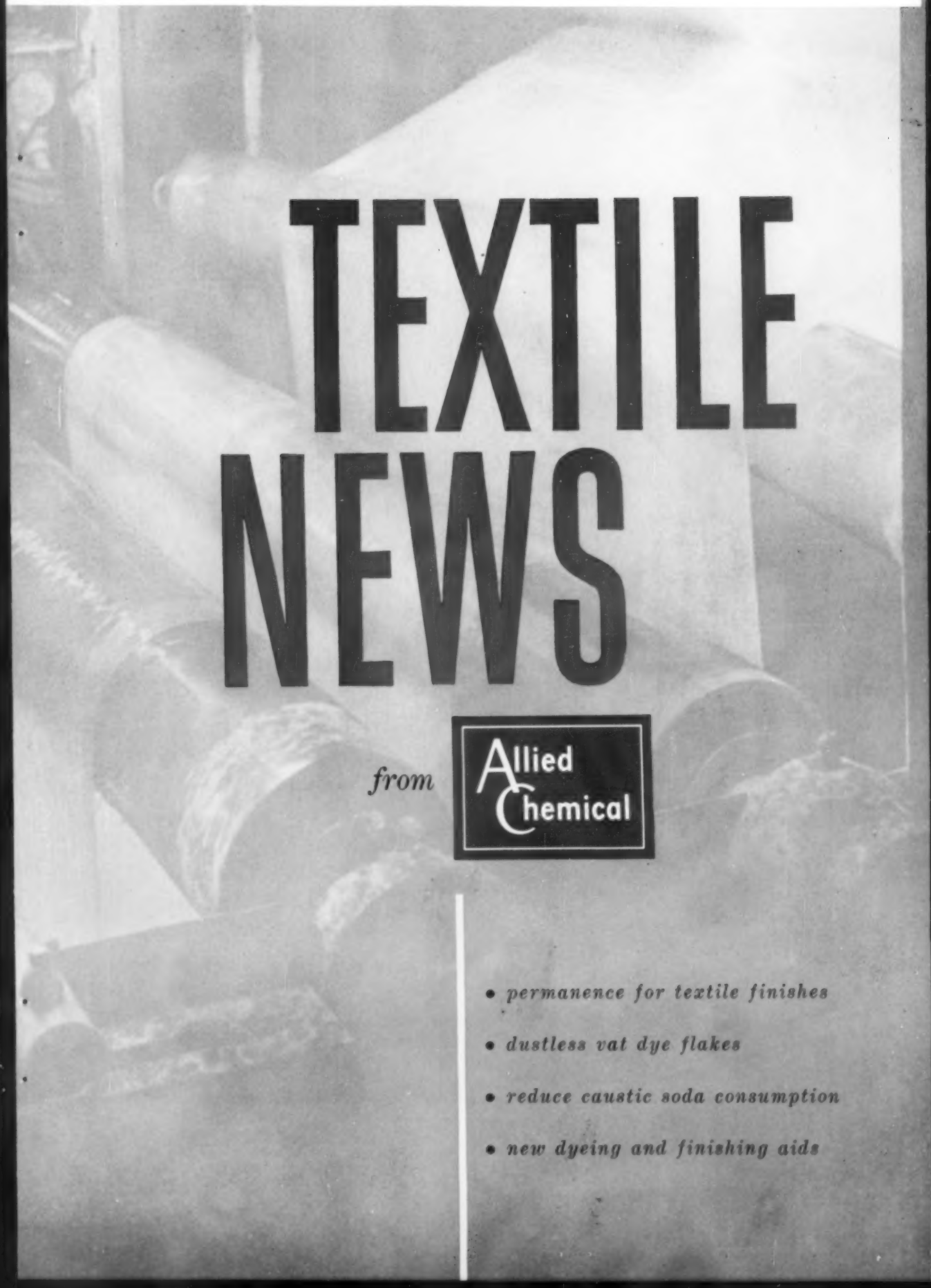
High-temperature dyeing is also speeding up the dyeing of yarn in skein form and narrow fabrics such as zipper tapes. High-bulk Orlon dyed in these machines retains all the fluffiness and soft hand that is characteristic of skein dyeing, and the work is done in less time at 225 F.

The machines are designed so that samples may be taken or dyes added without interrupting the high-temperature dyeing cycle.

Comparative dyeing times for old style machines and high-temperature machines are listed below.

MATERIAL	High-temperature dyeing unit	Normal-temperature dyeing unit
Wool, chrome dyeing	1 hr.	3 hrs.
Cotton	¾ hr.	1½ hrs.
Rayon cakes	1½ hr.	4 hrs.
Man-made fibers	1 hr.	2½ hrs.

Plus certain fibers and shades normally impossible to dye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Chemical
• permanence for textile finishes
• dustless vat dye flakes
• reduce caustic soda consumption
• new dyeing and finishing aids

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achieved with A-C Polyethylene-based emulsions

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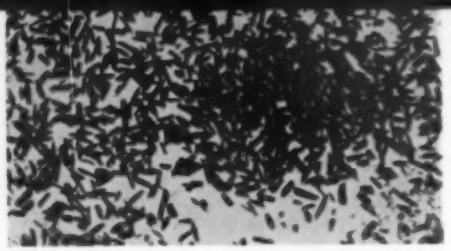

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As a result of extensive improvement studies conducted by Solvay Technical Service in more than 50 bleacheries, caustic survey techniques have been perfected, mercerizer washing operations have been improved, caustic evaporation cheapened and a dialytic caustic purification process conceived.

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Among these are Baker and Adamson® Zinc Fluoborate Solution, best catalyst for curing epoxy-type textile finishes; Ammonium Acetate, a mordant for dyeing wool and nylon that allows a progressive rather than a rapid and complete change; Cupric Acetate, used as a fix in conjunction with various resins to make textiles wash- and light-fast, as a vat dye catalyst and in fur dyeing.

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• *principal products for the textile industry*

BARRETT DIVISION—BARRETT building materials.

GENERAL CHEMICAL DIVISION—Acetic acid; Muriatic acid; Sodium phosphates; Sodium silicate; Sodium sulfate; Sulfuric acid. BAKER & ADAMSON fine chemicals—Ammonium acetate, Boron trifluoride complexes, Cupric acetate, Cuprous chloride, Sodium bisulfite (anhydrous), Zinc fluoborate, Zinc nitrate.

NATIONAL ANILINE DIVISION—CAPROLAN polyamide fibers—Filament yarns, Heavy yarns, Monofilament, Staple; Fumaric acid; HARMON pigments; Maleic anhydride; NACAN kier boiling assistant; NACCONOL detergents; NATIONAL dyes—ALIZAROL (mordant), CARBANSOL (vat pigments), CARBANTHRENE (anthraquinone vat), CHROMOLAN (premetalized acid), DIAZINE (developed), ERIE (direct), LANAMID (premetalized neutral), NABOR (basic), NACCOGENE (stabilized azoic), NACELAN (disperse), NACROSOL (azo pigment), NIAGARA (direct), SOLANTINE (fast-to-light direct), SOLASTRAL (phthalocyanine pigments), SOLVAT (leuco vat ester), SULFINDONE (sulfur), SUPERCHROME (mordant acid); Phthalic anhydride.

NITROGEN DIVISION—Ammonia liquor; Anhydrous ammonia; Diethylene glycol; Ethanolamines; Ethylene and polyethylene glycol, Ethylene oxide; Formaldehyde; U. F. Concentrate-85; Urea.

PLASTICS AND COAL CHEMICALS DIVISION—ELASTEX plasticizers; Industrial solvents; Tar acids; Tar bases.

SEMET-SOLVAY DIVISION—A-C polyethylenes—Emulsifiable for sizing and finishing compounds; hot melt for coating and backing.

SOLVAY PROCESS DIVISION—Ammonium chloride; Calcium chloride; Caustic potash; Caustic soda; Chlorine; Cleansing Soda X, XX-cleansing compounds; Hydrogen peroxide; Methylene chloride; Potassium carbonate; SNOWFLAKE crystals—SNOWFINE (sesquicarbonate of soda); Soda ash; Sodium nitrite; MUTUAL chromium chemicals—Chromic acid, Potassium bichromate, Sodium bichromate, Sodium chromate.

INTERNATIONAL DIVISION—Marketing Allied Chemical products abroad.

Items above appearing in light face capital letters are Allied Chemical trademarks.

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Celanese polyvinyl acetate emulsions can be formulated to give just the handle and finish you need. Woven fabrics varying in weight from percale to denim or heavy twill can be made more durable . . . tensile strength and wrinkle-recovery improved . . . stiffness controlled as desired.

Ask for Bulletin NP 28, "Textile Finishing with Celanese Acetate Emulsions." It describes properties, applications, typical formulations and processing procedures.

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Celanese®

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TEAMWORK PAYS DIVIDENDS AT NORTHERN DYEING CORPORATION

"When I needed technical help in adapting existing machines to the new blends, I got it from Du Pont." That statement, made by Frank Percarpio, President of Northern Dyeing Corporation, points up one of the big advantages of doing business with the Dyes and Chemicals Division of the Du Pont Company.

In the mid 1950's Frank Percarpio had a substantial dyeing and finishing business centered on faille fabrics. But by 1958 the faille business had declined sharply. "We worked twice as hard but only made one-third the money we had in previous years," Percarpio recalls.

Clearly, something radically different had to be done. Percarpio gauged the growing popularity of synthetic fibers alone and in blends with other synthetics and natural fibers. In the careful dyeing and finishing of these new fabrics, many of which present complex dyeing problems, he found new markets. Today a large share of his business is in fabrics of "Dacron"* polyester fiber and cotton, and nylon and cotton.

Mr. Frank J. Percarpio, President of Northern Dyeing Corporation, and John Thackrah, Du Pont Technical Demonstrator, are shown discussing the dyeing of synthetic fibers and blends on the Svetema Range. The fabric being run is a blend of "Dacron" and cotton.

Here's how it happened:

John Thackrah, Du Pont Technical Demonstrator, spent days in the mill working with Robert Lesh, Superintendent, on Northern's Svetema Pad-Roll Open Width Dyeing Range with all types of blends that heretofore had never been dyed in this machine. Many blends were evaluated and, in some cases, procedures had to be developed for the particular blend being dyed.

(continued on other side)

*DuPont's registered trademark

news from Du Pont

DR. OLDACH NAMED AS ASSISTANT GENERAL MANAGER

Dr. Carl S. Oldach, formerly director of sales of the "Freon"** Products Division, has been appointed as Assistant General Manager of Du Pont's Organic Chemicals Dept.

Since joining Du Pont in 1940, Dr. Oldach has served in varied capacities including chemical engineer and assistant technical superintendent at the Belle, W. Va., plant; supervisor in the Research Division in Wilmington; and assistant director of the Development Department. He was graduated from Yale University in 1937, and received a doctor of science degree in chemical engineering from Massachusetts Institute of Technology.

SHADE CHANGE NO PROBLEM WITH NEW VAT BROWN

"Ponsol"† Brown GF Double Paste is a new anthraquinone vat dye that can be used advantageously in covering immature cotton and in producing a good union on cotton and rayon.

Unlike many other vat browns, this brown undergoes a minimum of changes. There is little change on soaping and little change in artificial light. After hot pressing or water spotting, it returns quickly to normal shade.

In addition to good wetfastness, this

(continued on other side)

**DuPont's registered trademark †Reg. U. S. Pat. Off.

TEAMWORK PAYS DIVIDENDS

(continued from other side)

Nylon/cotton and "Dacron"*/cotton were some of the blends tested for dyeability by the pad-roll system. These appeared most attractive and became standard qualities at Northern Dyeing Corporation.

In order to handle the newer synthetic blends on the range, some modifications of the equipment were necessary; the work was a combined Du Pont and Northern effort.

Northern Dyeing Corporation processed millions of yards of "Dacron"/cotton blends in 1958. The figure for 1959 was higher, and the outlook for 1960 is even rosier.

Frank Percarpio's effort to do a superior and broader job and Du Pont's technical assistance have made Northern a leader in the dyeing of blends.

*Du Pont's registered trademark

WHAT'S YOUR TARIFF I.Q.?

(Answers are below)

1. Since 1934, American tariffs have been reduced: (25%) (50%) (75%)?
2. U. S. tariffs average: (5%) (10%) (25%)?
3. How do average British tariffs compare with American tariffs: (Half) (Equal) (Double) (Sixfold)?
4. What percentage of our imports are admitted duty free: (25% +) (50% +) (75% +)?
5. How many of the thirty-six leading trading nations have higher tariffs than the U. S.: (None) (12) (28) (35)?
6. What is the value of Japanese imports into the U. S. in 1960: ($100 million) ($500 million) ($1 billion)?
7. What is the U. S. tariff on foreign cars sold here: (8.5%) (20%) (30%)?
8. What is the British tariff on American cars sold there: (8.5%) (20%) (30%)?
9. About what per cent of the watches sold here are imported: (25%) (50%) (75%) (100%)?
10. By how much do the average hourly earnings in the U. S. (manufacturing) exceed average hourly European earnings: (50%) (100%) (300%) (400%)?

ANSWERS: 1. (75%) 2. (5%) 3. (Sixfold) 4. (50% +) 5. (28) 6. ($1 billion) 7. (8.5%) 8. (30%) 9. (75%) 10. (400%)

news from Du Pont

NEW VAT BROWN

(continued from other side)

new "Ponsol"† dye possesses very good lightfastness in the deeper shades. It can be applied to yarns or piece goods by all the usual methods. Du Pont dyeing specialists in our district offices are ready to give you specific application suggestions.

†Reg. U. S. Pat. Off.

FASTNESS PROPERTIES

Cotton Piece Goods—6 oz./gal. except as noted

TEST	RATING OR RESULT
Light (Fade-Ometer)	
1.5 oz./gal.	40 to 80 hours
6.0 oz./gal.	40 to 80 hours
12.0 oz./gal.	80 to 160 hours
Pressing (hot dry—5 sec. at 425° F.)	
After 1 minute	Negligible shade change
After 2 hours	Negligible shade change
Pressing (hot moist—10 sec. at 350° F.)	Negligible shade change
Washing (A. A. T. C. C. No. 3)	Negligible to slight change
Washing (A. A. T. C. C. No. 3A)	Slight shade change
Water Spotting (cold)	
At once	Slight shade change
After 2 hours	Negligible shade change

DU PONT

REG. U. S. PAT. OFF.

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Organic Chemicals Department
Dyes and Chemicals Division
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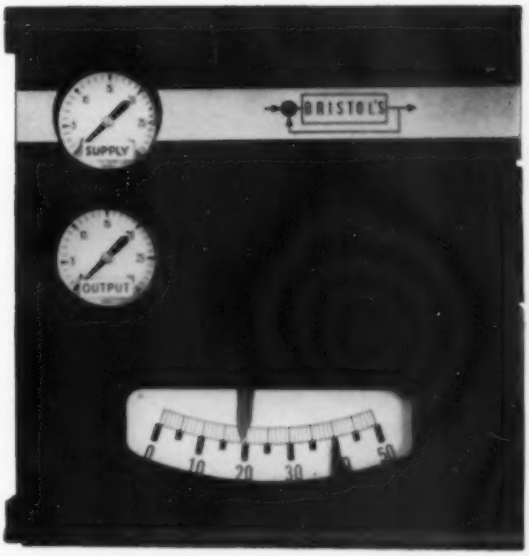
NEW

BRISTOL'S



Series 624 A/D* pneumatic controller features simplicity and high control stability

- **Simple modular design for ease of servicing**
- **High control stability for closer process control**
- **Designed for batch-type and continuous processes**
- **Proportional and proportional-plus-reset control models available**

Top control performance with maximum simplicity plus standard Bristol precision measuring elements – those are the key features of the Bristol Series 624 Controller. The 624 uses the same renowned elements that have earned such a reputation for accuracy and dependability on other Bristol automatic controlling and recording instruments – perfected through wide experience and many years of development.

Self-contained modular design of the control unit speeds servicing. The whole modular unit, consisting of an aluminum casting with working parts made of stainless steel, Ni-Span C, and Neoprene diaphragms, can be removed by taking out only two screws and a link.

Outstandingly compact, the aluminum instrument case (only 8" x 8" x 5" overall) is completely weatherproof. It is designed for either flush, surface, panel, or valve mounting. Attachments for pipe mounting (2-inch pipe) are available. Write for complete data on the versatile and economical 624 A/D. The Bristol Company, 103 Bristol Road, Waterbury 20, Conn. 0.35

*Advanced Design

CONTROLLERS OFFERED FOR:

PRESSURE AND VACUUM: Ranges from full vacuum to 10,000 psi.

TEMPERATURE: Ranges from —100°F to +1000°F.

FLOW AND DIFFERENTIAL PRESSURE: With mercury-type manometer and dry-type differential unit.

LIQUID LEVEL: With bulb unit and mercury manometer and dry-type differential unit.

HUMIDITY: Zero to 100% relative humidity.

CONTROL UNIT CHARACTERISTICS:

PROPORTIONAL BAND: 0-400% continuously adjustable, direct- or reverse-acting.

RESET: 0.1 to 50 repeats per minute.

AIR PILOT: Non-bleed type.

PILOT CAPACITY: 3.0 scfm.

FREQUENCY RESPONSE: Flat to 300 cycles per minute.

TEMPERATURE STABILITY: Less than 0.25% change in the output pressure for 90°F temperature change.

MATERIAL: Aluminum housing; 316 stainless steel internal parts; Ni-Span C feedback element.

BRISTOL... for improved production through measurement and control

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

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CHEMICAL PRODUCTION COSTS,
YOU'LL LIKE DOING BUSINESS WITH
COLUMBIA-SOUTHERN

A complete appraisal of your chemical purchasing practices might reveal areas where you can make significant savings . . . and your Columbia-Southern Representative is fully equipped to help you do such a job.

He'll help you determine whether you're set up for the most economical chemical storage and handling, for one thing. And he'll survey the various forms and grades of chemicals you are buying now. Very often a small change can result in big savings.

Another area you can explore together is delivery procedure. Are you using the best means of transportation to insure prompt delivery at the most reasonable costs?

Get in touch with your Columbia-Southern Representative, and review these questions with him. You'll be glad you did.

Columbia-Southern Chemical Corporation, One Gateway Center, Pittsburgh 22, Pa. Offices in fourteen principal cities. In Canada: Standard Chemical Limited.

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A Subsidiary of Pittsburgh Plate Glass Company

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THE FRANKLIN SHEAR-

- **with new accuracy**
- **new uniformity**
- **new smoothness**

Put a whole new face on woolens, worsteds, synthetics, knitgoods and high pile fabrics with this new Gessner finishing machine.

Revolver and knife, anchored to the main frame, reduce vibration and chatter, to produce a remarkably accurate and even cut — every inch of it uniform and smooth. We hope you will want to know more about the Franklin Shear.

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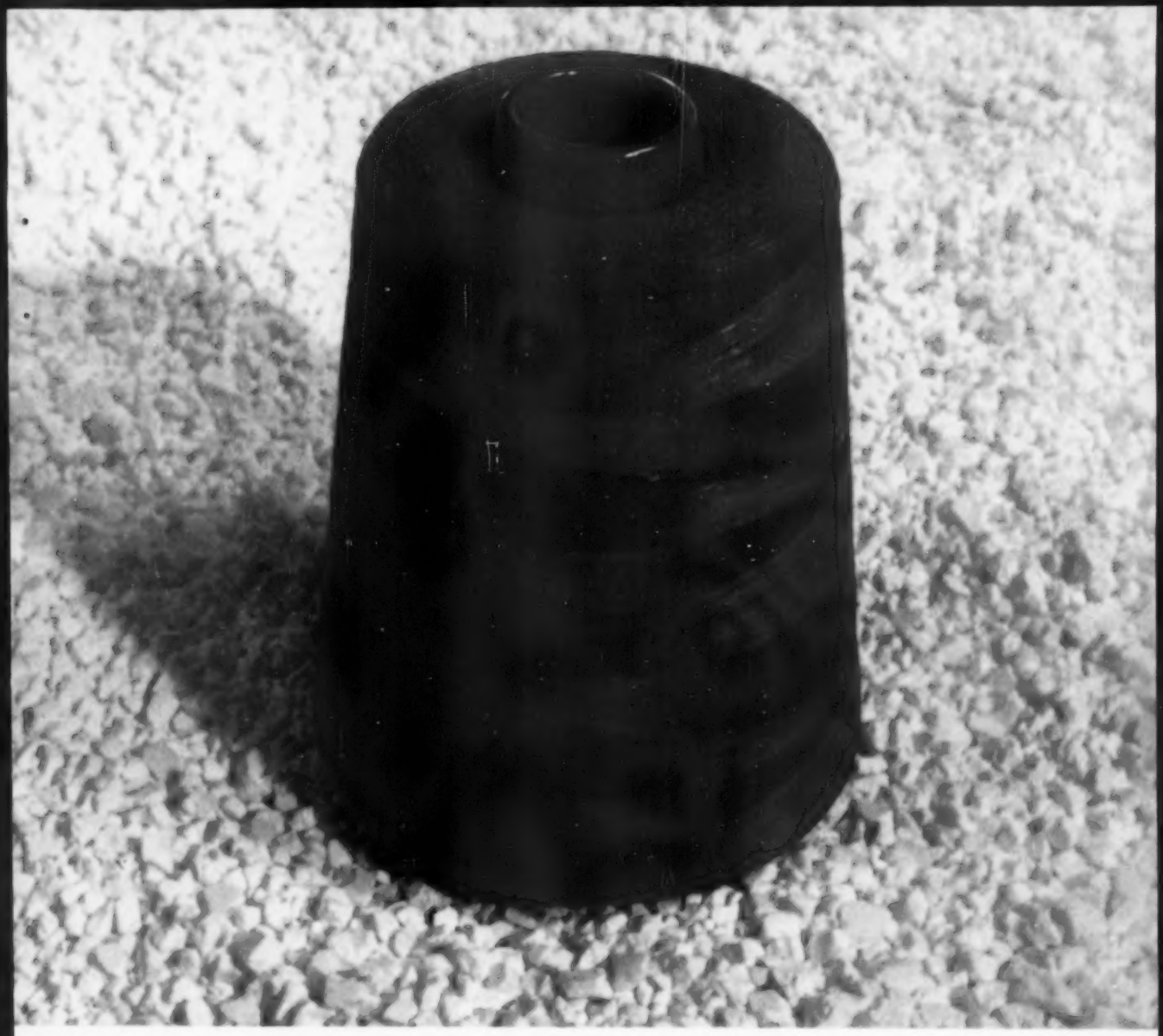
CIRCLE 104 ON READER SERVICE CARD

CIRCLE 105 ON READER SERVICE CARD →



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For stripping and discharge printing.
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For reduction of vat colors. Non-Dusting
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For stripping wool stock, shoddy, rags.
HYDROZIN®—($Zn(HSO_2CH_2O)_2$)
For stripping acetate dyes and discharge printing on acetate dyed grounds.
HYDROSULFITE QD—For rapid dissolving in continuous vat dyeing.

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AMPROZYME®—For liquefaction of starches and proteins in de-sizing textiles.
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ORATOL® L-48—A synthetic detergent with excellent penetrating and emulsifying properties.
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PARNOL—Sodium Dodecyl Benzene Sulphonate.
SELLOGEN® GEL — A synthetic detergent used also in dyeing and as a wetting agent for all natural and synthetic fibre.
DETERGENT W-1750A—Has anionic and non-ionic properties; excellent for scouring nylon and dacron to remove throwster sizings; penetrates and lifts graphite streaks

DYEING

WETSIT™ CONC—A synthetic aromatic compound for wetting out in both the dyeing and scouring operations.
WETSIT NI—100% non-ionic wetting agent.
MONOPOLE® OIL—A highly concentrated, double sulphonated castor oil for a wide range of operations.
APASOL®—Particularly effective in the dispersion of acetate printing colors. A sulphonated ester with a high combined SO_3.
LOMAR® PW—Dispersing agent for pad dyed vat colors; also retardant in the dyebath.
SULPHONATED OILS—Castor, Cod, Sperm, Olive, Neatsfoot, Pine, Red, Teaseed, etc.

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DILEINE® SERIES—An amino concentrate for the prevention of atmospheric gas fading on dyed acetate fibers.
MELEINE® SERIES—Complex organic nitrogenous compounds used on finishes to protect acetate dyed fabrics from atmospheric gas fading.
STATLESS—Paste for reducing static on all fibres.
CREAM SOFTENERS—In different strengths and varied degrees of alkalinity for a soft full hand to all types of fabrics.
LUPOMIN®—A series of cationic nitrogen compounds used for softening and finishing textiles.
CHAFE REMOVER W-545-T—A finishing oil for textiles, particularly silk fabrics, to remove chafe marks.
LUXAPOLE™ W-1054-B—A superior, sulphonated oil for finishing all fine fabrics.
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SOLUBLE WAX JB—A dispersed vegetable wax for full body and high lustre to cotton goods.
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SUPERCLEAR™—Prepared from natural gums as a thickener for printing all types of textiles.
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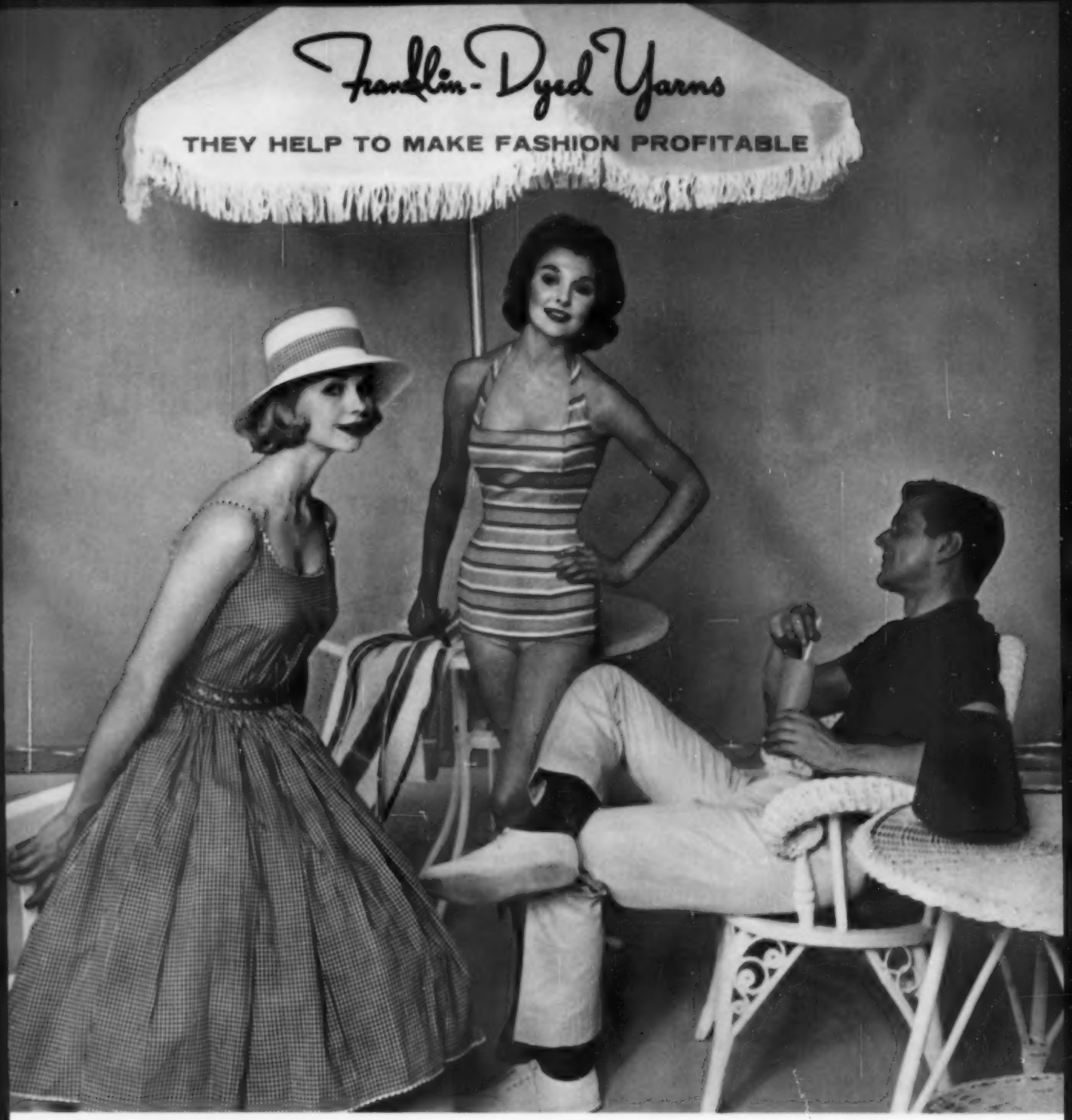
Franklin-Dyed Yarns

THEY HELP TO MAKE FASHION PROFITABLE



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COMPANY
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There's risk enough in fashion fabrics (knitted, woven or tufted) without adding to it by complicating your dyed yarn problems. Franklin Process can simplify these problems and make your operation more profitable, because: –

1. With the largest package dyeing capacity in the world and 4 plants, we are a highly dependable source of supply.
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FE	0.001%
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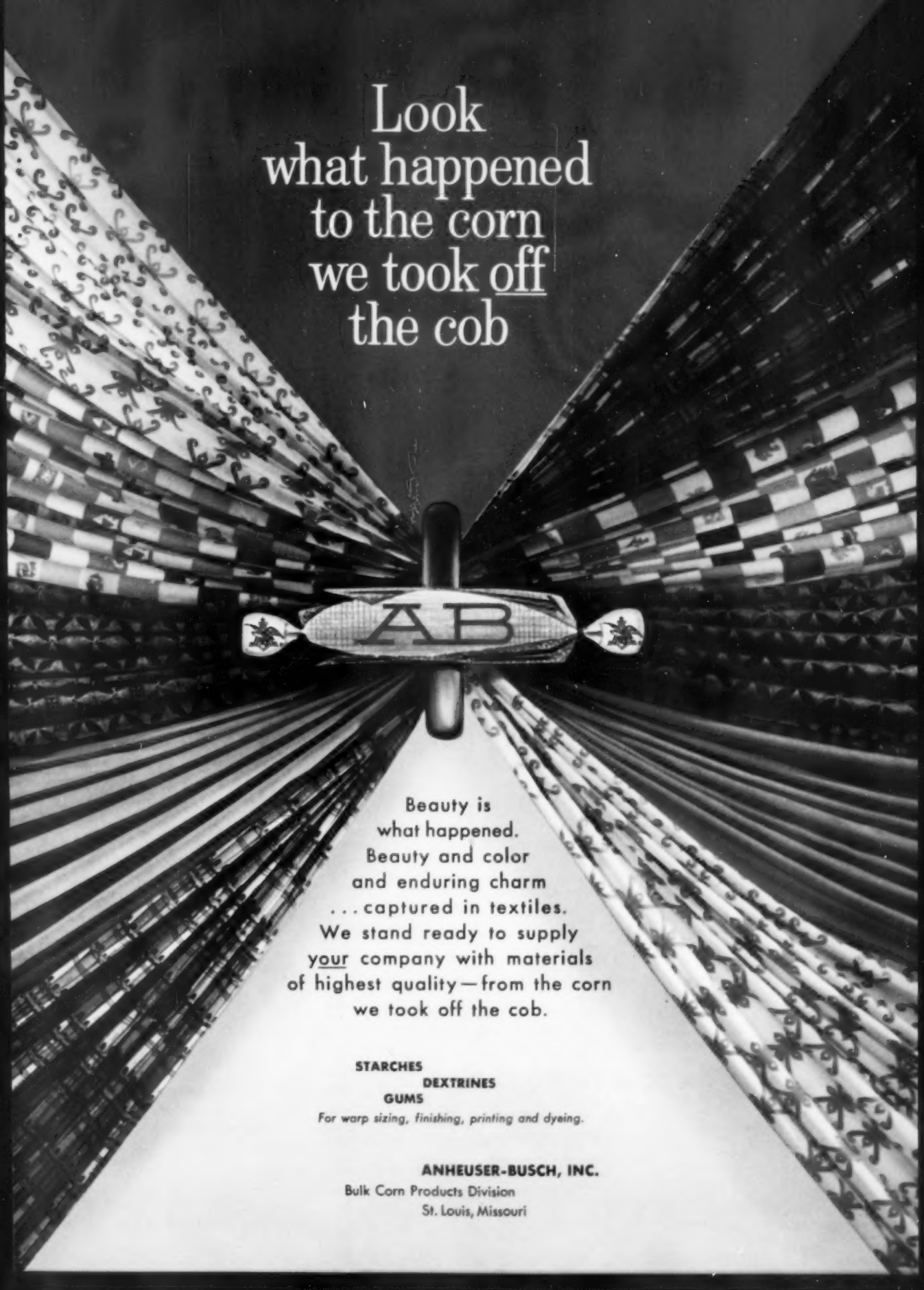
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what happened
to the corn
we took off
the cob
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Beauty is
what happened.
Beauty and color
and enduring charm
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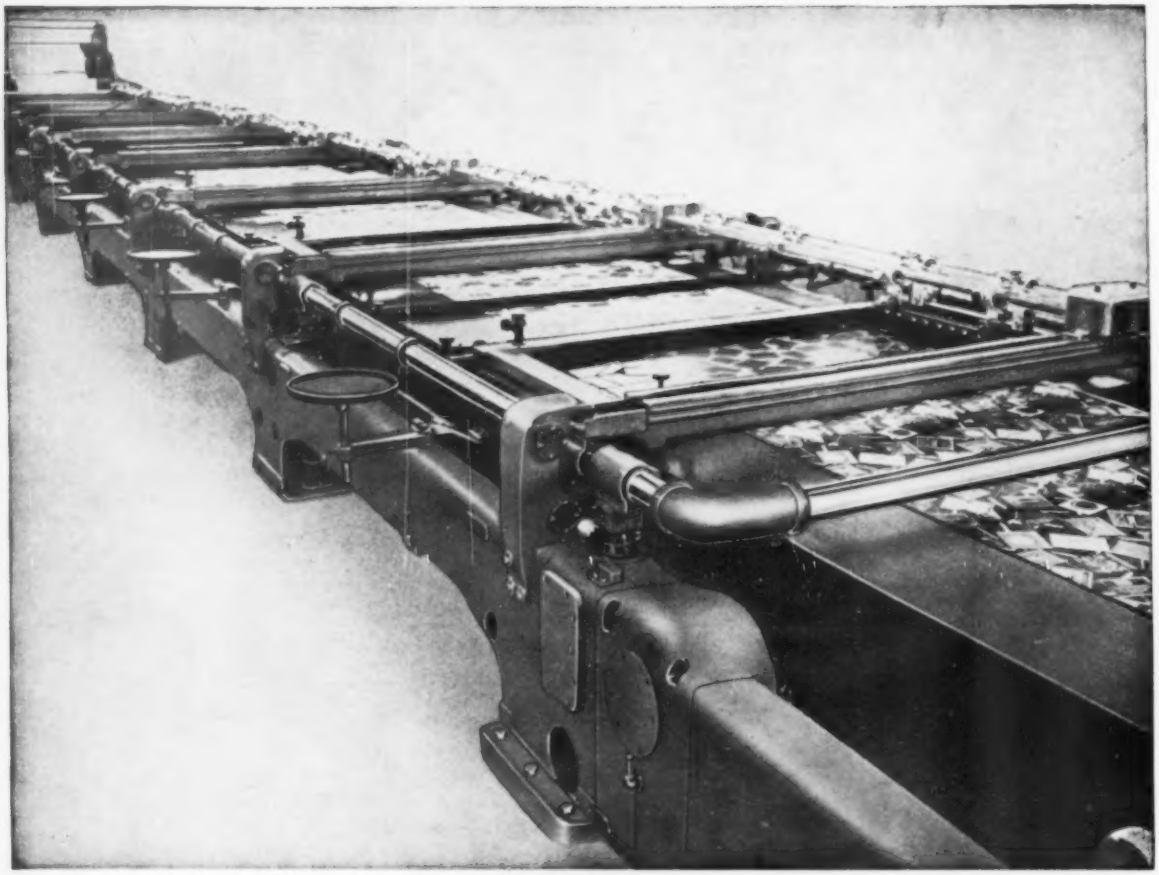

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The Ichinose Screen Printing Machine, with more than 60 patented features, screen prints all kinds of fabric perfectly in up to 21 colors at nearly double the speed of other machines on the market. Finished prints are of highest quality, clean, sharp, accurate and far superior to hand or roller prints.

Ichinose means greater economy, too, both in initial cost and in operation and maintenance. It consumes less power, steam, and dye paste, while cutting labor costs to only two operators per machine. Change of design and colors takes less than 30 minutes.

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STARCHES · RESINS

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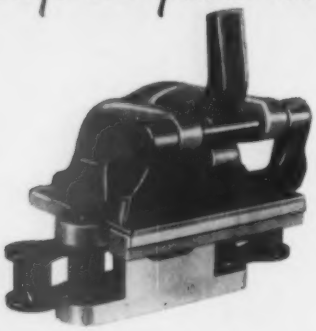
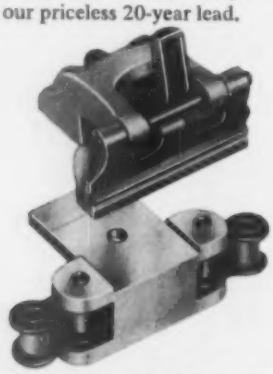
Roller Type Tenter Clips

...always 20 years ahead!



Our #11 Roller Type Tenter Clip universally sets the standards for roller clip performance. Engineered for every type of operation, equipment and fabric, it is precise in performance up to 250 ypm, has exceptionally long life at high speeds. We originated, patented and introduced the basic design 20 years ago — and constantly improve both design and materials to maintain our priceless 20-year lead.



Our Two-Piece Roller Type Tenter Clip is a typical M&W innovation — only clip of its type available in two-piece construction to eliminate down time, greatly reduce repair costs. A single socket-head cap screw and lock washer rigidly hold the two sections together. Top section can be promptly removed (and replaced) in case of damage or wear, leaving bottom of chain in place on frame—ready for immediate resumption of operation.

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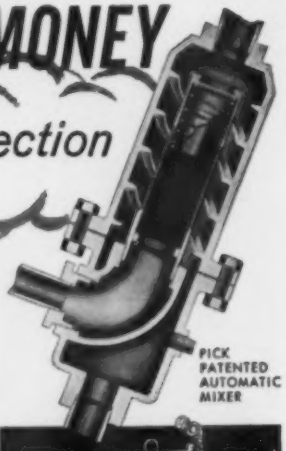
Steam Injection

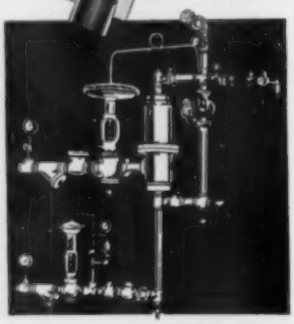


INSTANTANEOUS
HOT WATER
FASTEST, MOST ACCURATE
8 SIZES — 500 TO 50,000 GALS. PER HOUR

PICK PATENTED AUTOMATIC MIXER

New jobs . . . old ones requiring modernization — nothing compares with a Pick heater! Live steam mixed with water, only as water is drawn. All of the heat of steam is used — none wasted on keeping stored water at correct temperature. Temperature maintained within 3° plus or minus. Volume adjustable from 5% to full rated capacity. 20-second reaction to desired up-and-down changes in water temperature.

Operates on low or high pressure steam. Uses no floor space; usually attached to wall.



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Pick WATER HEATERS

PICK MFG. CO., West [illegible]

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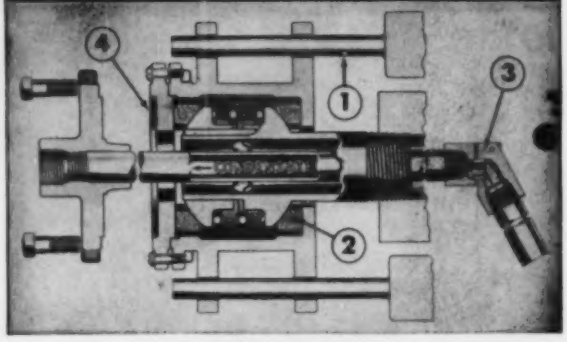
For service on Dry Cans and 30" Slasher Cylinders



Type LJSP with Syphon Elbow

Johnson
ROTARY PRESSURE
Joints
First in the Textile Industry

1. Support rods carry all the real weight. Sealing assembly "floats" freely inside. **2.** Seals without packing—needs no lubrication or adjusting. **3.** Syphon elbow replaces clumsy curved syphon pipe with two straight pipes, passes right through joint. **4.** Assembly plate holds parts in place when head is removed.

Write for Catalog J-2002
Shows Johnson Joints for all needs, on dry cans, print cans, calenders, compressive shrinkage ranges, 5' and 7' cotton slashers, etc.

THE JOHNSON CORPORATION
814 Wood St., Three Rivers, Mich.

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APEX

CHEMICAL PRODUCTS FOR FINER TEXTILE PROCESSING

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All standard A.A.T.C.C. tests can be performed.

In addition, we can provide the following regular services and tests:

Abrasion Resistance
Absorbency
Antistatic—Fabric Resistivity
Crock Fastness
Chlorine Retention
Curing, Framing and Drying
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Pure white softeners with ready solubility in cold or hot water. Widely compatible. Non-chlorine retentive. Economical.

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Polyethylene softeners which work in hard water, give a soft feel and eliminate needle cutting.

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Special products to impart a soft hand and flameproofing properties on difficult blends as well as on natural fibers.

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Coning and winding oils for natural, synthetic and rubber yarns.

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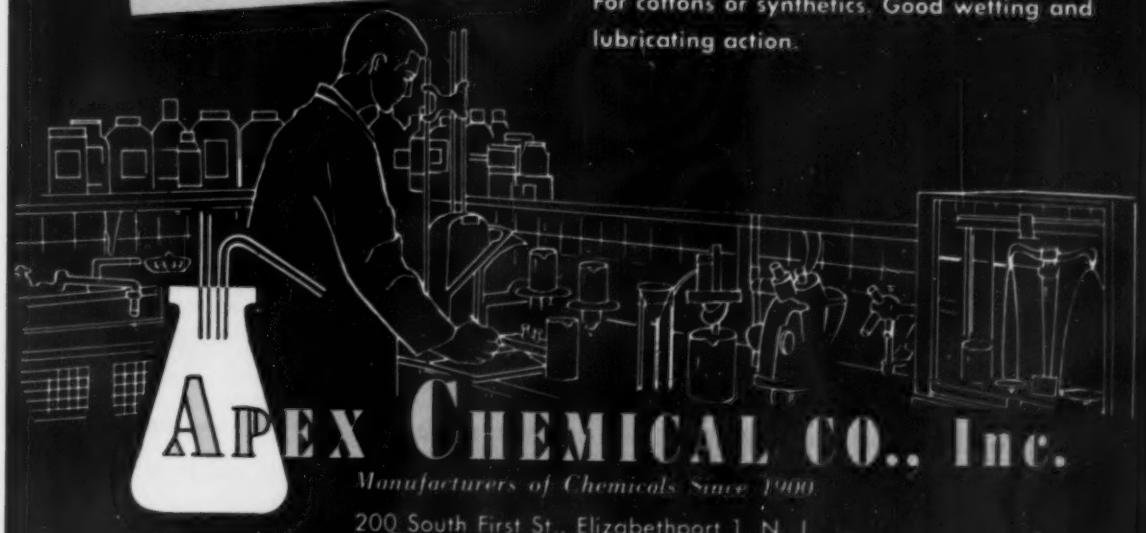
Low foaming dyeing and kier boil assistants. For cottons or synthetics. Good wetting and lubricating action.



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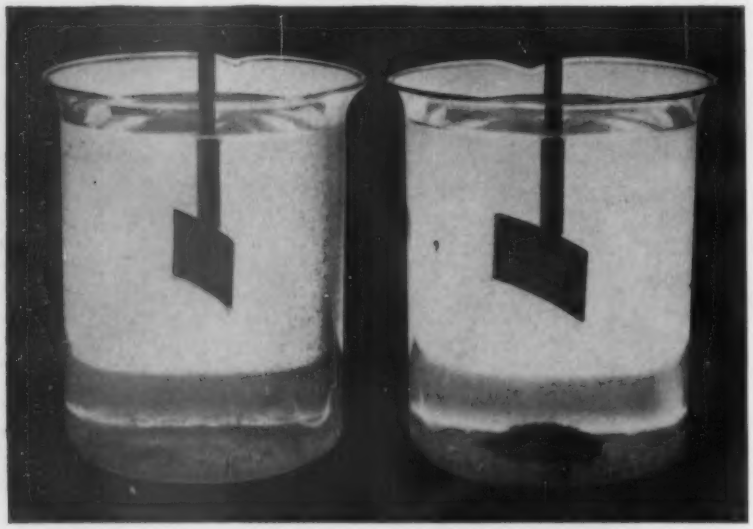
HAGAN COAGULANT AIDS

Faster coagulation . . . larger floc . . . increased throughput . . .



River water with Coagulants
Only 50% of floc settled in 3 minutes

River water with Coagulants plus Hagan Aid
99% of floc settled in 3 minutes

Scientifically formulated Hagan Coagulant Aids 2, 7, 11 and 18 are most effective means of improving coagulation in all types of clarification equipment, and are completely safe for drinking waters.

Supplied in free-flowing granular form, they are easy to use since they may be dry fed or readily prepared as slurries. While Aid No. 2 is a pure polyelectrolyte, Aids 7, 11 and 18 are intimate blends of: (1) polyelectrolyte to promote rapid floc growth and (2) processed clays to serve as nuclei around which floc forms readily. They also provide weight to increase the settling rate of the floc. One of the Hagan Coagulant Aids will meet your specific water condition.

In over three years of use in water clarification, Hagan Coagulant Aids have increased clarifier throughput rates, reduced floc carryover, simplified clarifier operation, improved color removal and even reduced overall chemical treatment costs in many plants.

We shall be glad to conduct coagulation studies to determine which of the several Hagan Coagulant Aids is best for your particular operation. For information, write:

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HAGAN CENTER, PITTSBURGH 30, PA.

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how to double your reading speed

Most executives waste 80% of their reading capacity – have no time to read and less time to think. Now executives can double their reading speed and boost their comprehension through "How to Cut Your Reading Time," a *free* McGraw-Hill brochure issued in collaboration with The Reading Laboratory, Inc.

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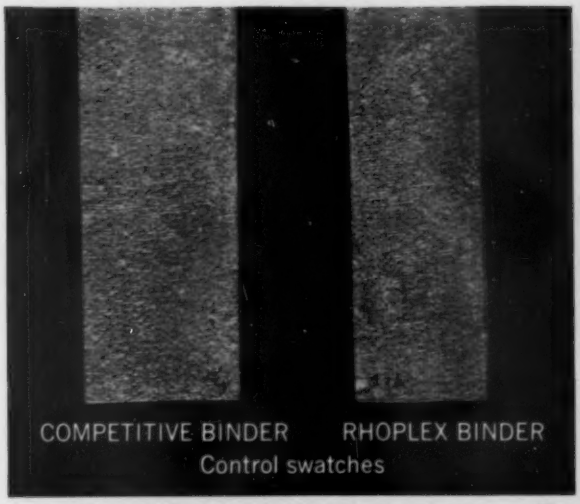

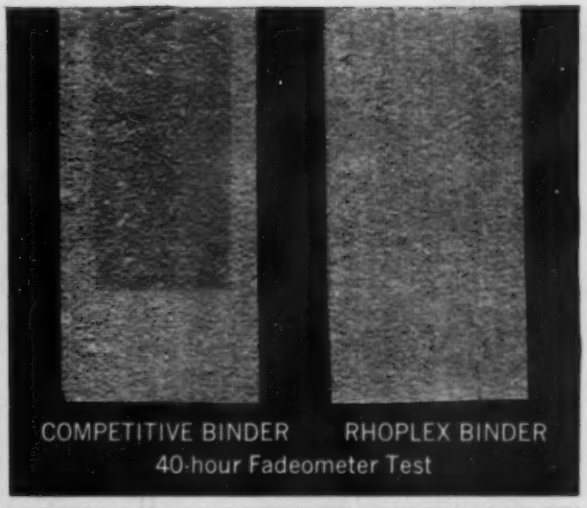

Durable non-woven fabrics begin with RHOPLEX binders

You can process durability right into non-woven fabrics with RHOPLEX binders, and get a number of other advantages as well. RHOPLEX acrylic emulsions are clear and are virtually sun-proof. They do not normally discolor or have a stiffening effect on fabrics as they age. And RHOPLEX resins strongly resist breakdown by cleaning solvents, soaps and detergents.

On both woven and non-woven fabrics, RHOPLEX resins are valuable binders for pigments. Colors stay bright. RHOPLEX can also be used to give a desirable "hand" to woven fabrics, and is widely used as a backing for upholstery goods.

Get technical descriptions of RHOPLEX resins useful in textile finishing by sending a request, on your company letterhead, today.

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(it goes with every sale of Wyandotte Soda Ash)

Wyandotte's technically trained representatives have broad experience in the proper handling, storage, and use of soda ash. They're at your service any time – to show you how you can best apply our soda ash to your process, and to help you select the right grade. We make several grades – all testing 58% sodium oxide or better. Call on us. *Wyandotte Chemicals Corporation, Michigan Alkali Division, Wyandotte, Michigan. Offices in principal cities.*

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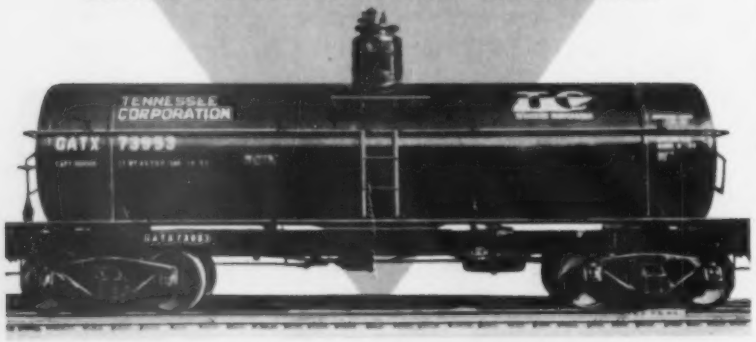
SERVING THE SOUTHEAST AND ADJACENT AREAS



We produce all grades and strengths of Sulfuric Acid from 60° Baume through the various oleums.

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Veteran chemists and dyers all over the world depend on LOGWOOD when they want the best in black. Available in powder, crystal and liquid forms. Write today for detailed information.

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CIRCLE 253 ON READER SERVICE CARD

WHICH JOB WOULD YOU TAKE?

If you're like most of us, you'd take the job with the more tempting salary and the brighter future.

Many college teachers are faced with this kind of decision year after year. In fact, many of them are virtually bombarded with tempting offers from business and industry. And each year many of them, dedicated but discouraged, leave the campus for jobs that pay fair, competitive salaries.

Can you blame them?

These men are not opportunists. Most of them would do anything in their power to continue to teach. But with families to feed and clothe and educate, they just can't make a go of it. They are virtually *forced* into better paying fields.

In the face of this growing teacher shortage, college applications are expected to *double* within ten years.

At the rate we are going, we will soon have a very real crisis on our hands.

We *must* reverse this disastrous trend. You can help. Support the college of your choice today. Help it to expand its facilities and to pay teachers the salaries they deserve. Our whole future as a nation may depend on it.

It's important for you to know more about what the impending college crisis means to you. Write for a free booklet to: HIGHER EDUCATION, Box 36, Times Square Station, New York 36, N.Y.

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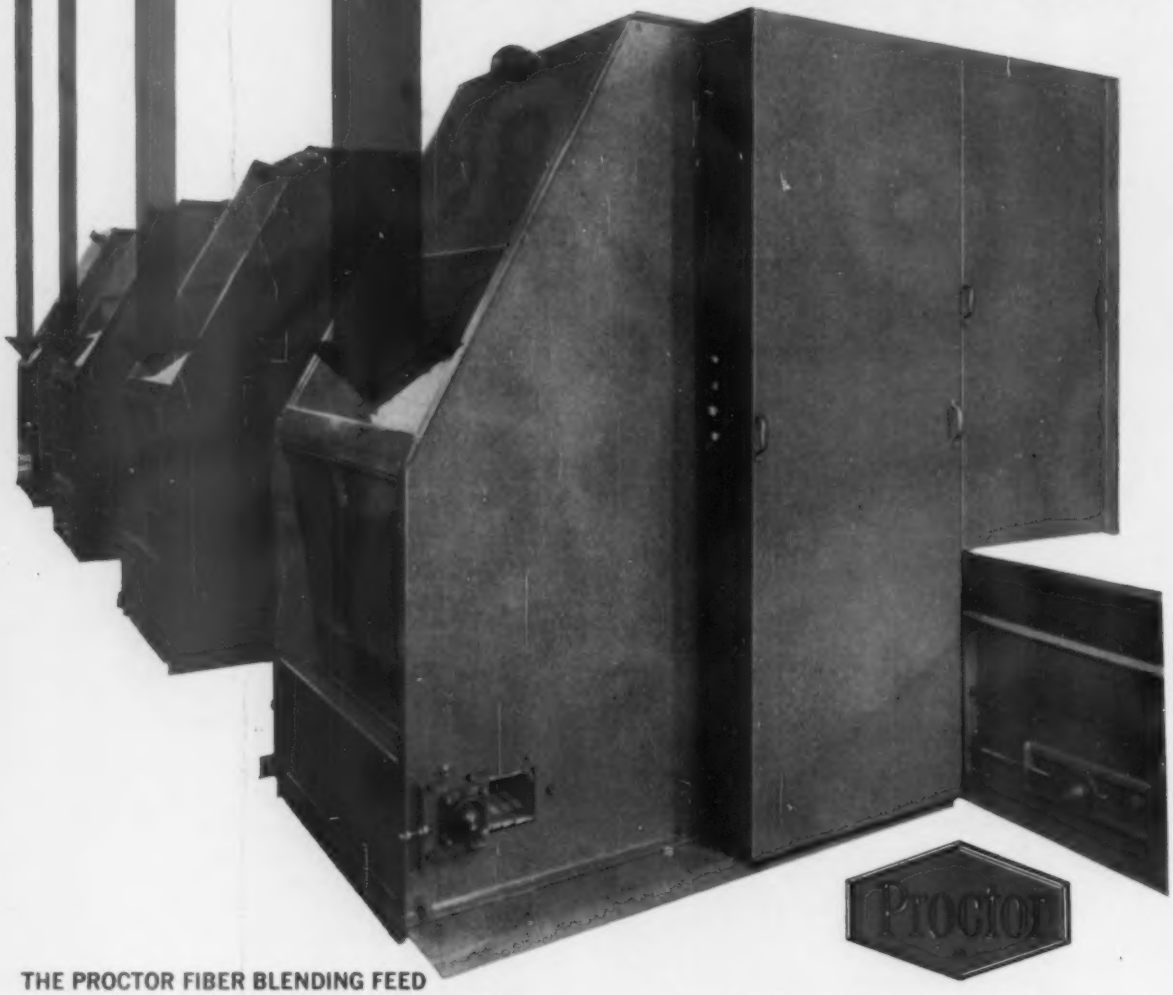
HIGHER EDUCATION KEEP IT BRIGHT

UNIFORMITY

of Blended Fiber Stocks Is Important



THE PROCTOR FIBER BLENDING FEED

accurately weighs and proportions baled stocks. It's automatic. It saves labor. It reduces cost. It improves uniformity of product.

Two or more of these feeds combined with a floor apron, picker and condenser make a complete, simple and effective blending unit. Each feed has its own self-contained control units and is completely enclosed. No extra controls to buy. Each accurately weighs up to 10 dumps per minute. Each can be operated manually or automatically.

The Proctor Blending Feed assures better opening of fibers by the self-stripping rotary pin beaters on the hopper side and on the delivery side of the spike apron.

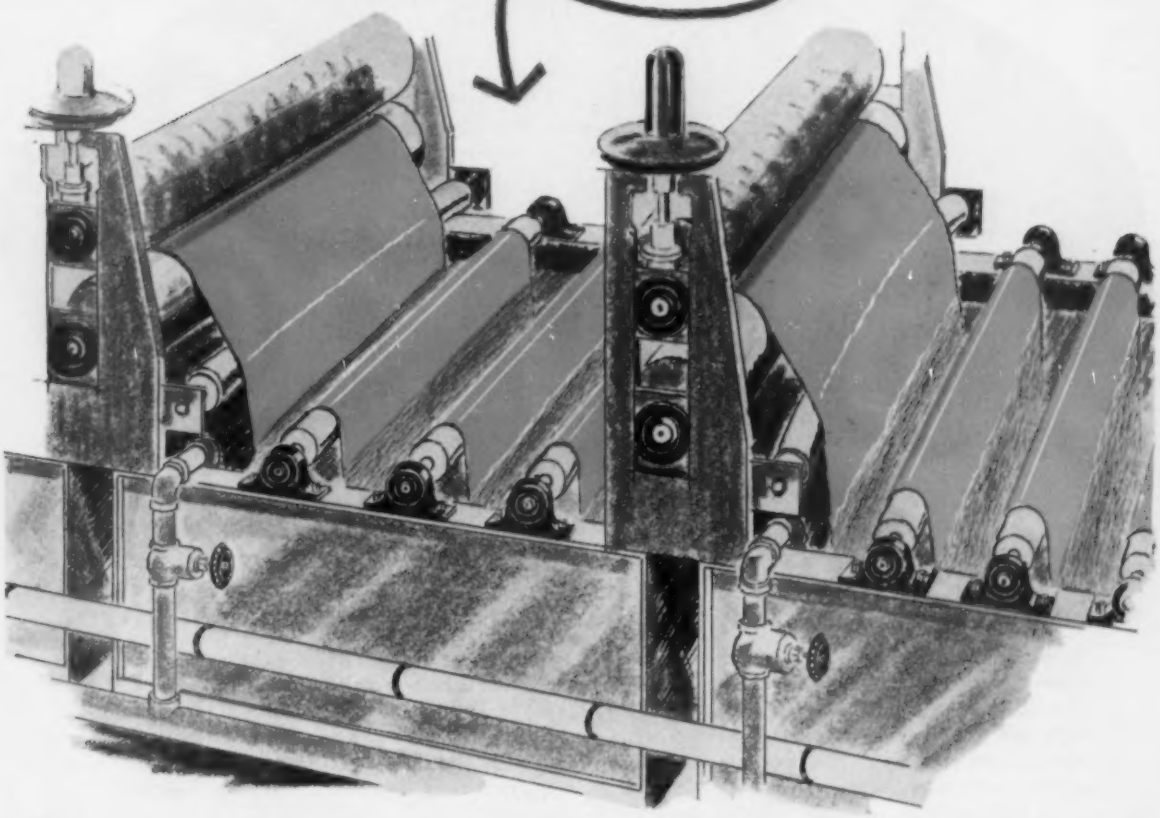
The Proctor Fiber Blending Feed is one of 3 new high-production feeds: #729B Blending Feed, #729C Card or Garnett Feed, #729P Picker Feed.

Bulletin #459 completely describes the new Proctor Blending Feed. Send for your copy. There is no obligation.

Be sure to see the Blending Feed in action at the Southern Textile Exposition, Booth 503.

PROCTOR & SCHWARTZ, INC., 7th Street & Tabor Road, Philadelphia 20, Pa.

for a better job **HERE**



Soap off thoroughly, economically

SYNTHRAPOL SP

SYNTHRAPOL SP for soaping off after dyeing or printing does a highly efficient all-around job!

For fiber reactive dyeings and prints – SYNTHRAPOL SP removes unfixed dye, residual alkali, electrolyte. Promotes high wet fastness.

SYNTHRAPOL SP used in the soaping of vat or azoic dyeings or prints improves brightness of shade, minimizes crocking.

SYNTHRAPOL SP works well in hard or soft water.

Synthrapol Reg. Trade Mark

Ask for sample or further technical information.

Quality AHCO PRODUCTS Integrity

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A Subsidiary of Imperial Chemical Industries Limited, England

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419-9

CIRCLE 119 ON READER SERVICE CARD

POWELL

WORLD'S LARGEST FAMILY OF

VALVES

performance makes the world of difference

Powell Valves for Chemical and Process Industries

To meet the demand for new and different valves to control the flow of the constantly increasing number of corrosive fluids, Powell now has valves available in the largest selection of pure metals and alloys—aluminum, stainless steel, pure nickel, monel metal, hastelloy alloys, acid bronzes and many, many others.

All kinds are available—gate, globe, angle, check, "Y", relief, flush bottom tank valves, etc. They are scientifically designed and ruggedly built for top performance when used in the service for which they are recommended. Either consult your nearby Powell Valve distributor—or write to us for illustrated literature.

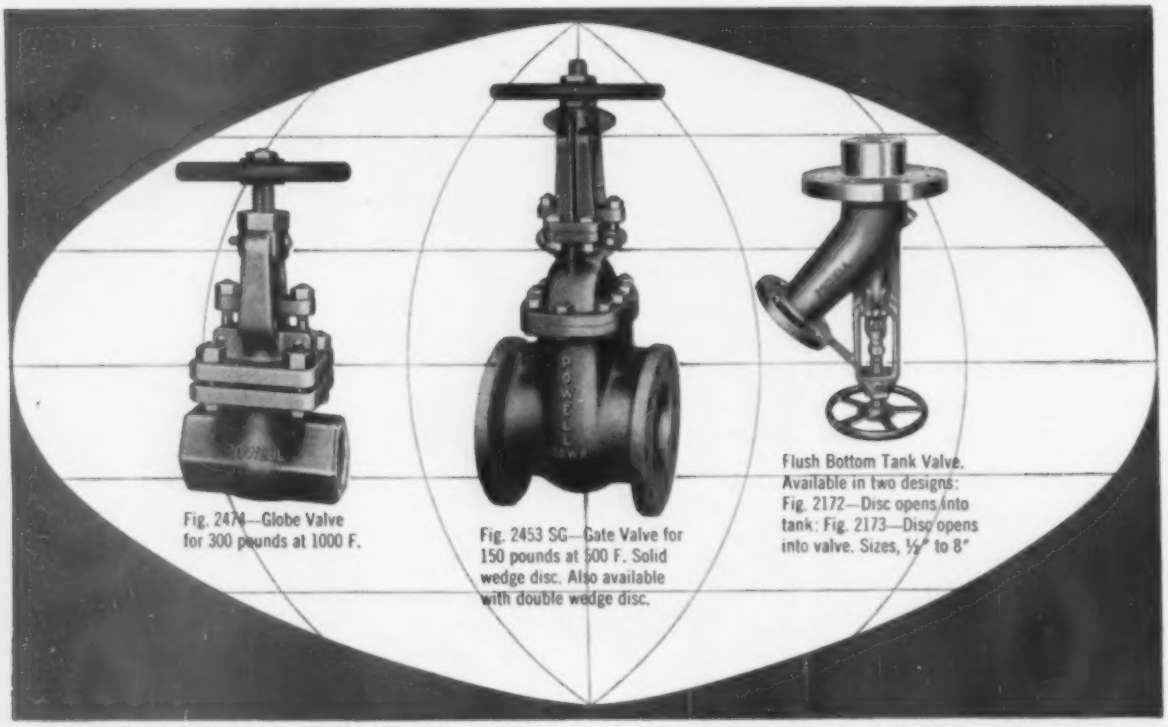

Fig. 2474—Globe Valve for 300 pounds at 1000 F.

Fig. 2453 SG—Gate Valve for 150 pounds at 500 F. Solid wedge disc. Also available with double wedge disc.

Flush Bottom Tank Valve. Available in two designs: Fig. 2172—Disc opens into tank: Fig. 2173—Disc opens into valve. Sizes, ½" to 8"

THE WM. POWELL COMPANY • DEPENDABLE VALVES SINCE 1846 • CINCINNATI 22, OHIO

NOW...CUT COTTON HOSIERY BLEACHING TIME TO ONE HOUR

with new Columbia-Southern Hydrogen Peroxide Process

That's right... this new Columbia-Southern method gives you full-white bleaching in just *one hour*, compared to longer times—up to five hours—required for conventional systems.

And besides this great saving in production time, the new technique offers these other advantages:

- Requires fewer steps than conventional methods.
- Reduces water consumption by as much as 70%.
- Reduces steam costs.
- Reduces chemical costs.
- Produces uniform results from batch to batch.

The Columbia-Southern hydrogen peroxide technique uses standard rotary equipment. The change-over from slower, conventional methods is simple and involves no expense.

In the short time this new technique has been available to the trade, thousands of pairs of socks have been bleached with excellent results. Many leading mills have tested the new method under everyday working conditions and report complete satisfaction.

Call in your Columbia-Southern Representative, and get complete details on this new time-saving, money-saving bleaching system.

You'll like doing business with Columbia-Southern

columbia | southern chemicals

COLUMBIA-SOUTHERN CHEMICAL CORPORATION • A Subsidiary of Pittsburgh Plate Glass Co. • One Gateway Center, Pittsburgh 22, Pa.

DISTRICT OFFICES: Cincinnati • Charlotte • Chicago • Cleveland • Boston New York • St. Louis • Minneapolis • New Orleans • Dallas • Houston Pittsburgh • Philadelphia • San Francisco

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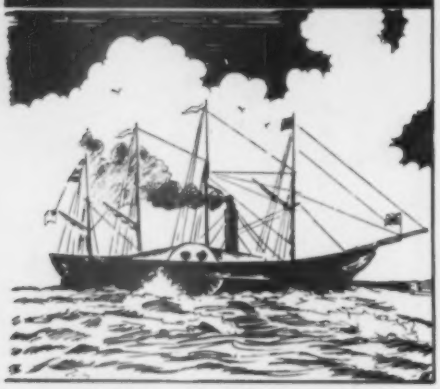
FIRST
from BALTIMORE

The *first* Regular Steam Vessel to cross the Atlantic from the United States direct was the steam packet, CITY OF KINGSTON – sailed from Baltimore in 1838.



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- ACID
- DEVELOPED
- ACETATE
- FORMALDEHYDE
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THE HOUSE OF BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from our Baltimore factory.

Courtesy – The Baltimore News-Post

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CIRCLE 254 ON READER SERVICE CARD

Professor Lucius von Hausen, of aeronautics fame, reads in a balloon.

"Sort of keeps me on top of things," he says. Fair enough . . . but other engineers and executives prefer to read with their feet on the ground, especially when they're reading about business. Remember, a good place to read is a good place to think . . . and if you pay engineers and managers to think, encourage them to do more reading. Like so many successful men who read their "most useful" McGraw-Hill publications, they'll find the best place . . . home or plant, office or hammock. But wherever they read, remember, you share in the rewards.*

**Yes, when they read, you profit, too. Write on your business letterhead for a personal copy of booklet, "The McGraw-Hill Engineered Reading Program."*

the FUTURE of FABRICS is in the FINISH

Dura Beau

Lanolized

Creamoyl

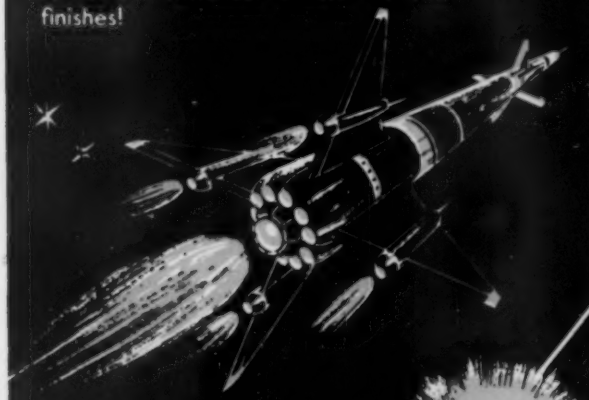
Polyeen

Duraseptic

Hysorb

Brosco-Tex

When the fibers are the same, it's the finish that makes the difference—enhances the inherent characteristics . . . adds properties and qualities that make fabrics more comfortable, more useable, more desirable! Ask your finishing plant about Scholler superior finishes—dependable products of America's foremost maker of fine finishes!



LANOLIZED FINISHES. Produce fabrics with unusually desirable cosmetic properties and superior comfort against the skin.

DURA BEAU RESIN FINISHES. For hosiery and other fine fabrics that require superior qualities of "hand" plus added properties of fabric strength, stability and surface smoothness.

CREAMOYL FINISHES. Economically add a high degree of softness and smoothness in practically all fibers and fabrics.

POLYEEN FINISHES. A superb finish that produces a wonderfully soft, resilient, natural "hand" in the heavily resinated fabrics.

DURASEPTIC. A finish additive that inhibits growth of bacteria on fabrics, minimizes perspiration odors, retards mildew!

BROSCO-TEX. A new finish designed to enhance tufted fabrics of all kinds, assures better maintenance of pile, superior resiliency and more desirable hand.

HYSORB FINISHES. Produce a "thirst" for moisture in the normally moisture-resistant fabrics of man-made fibers!

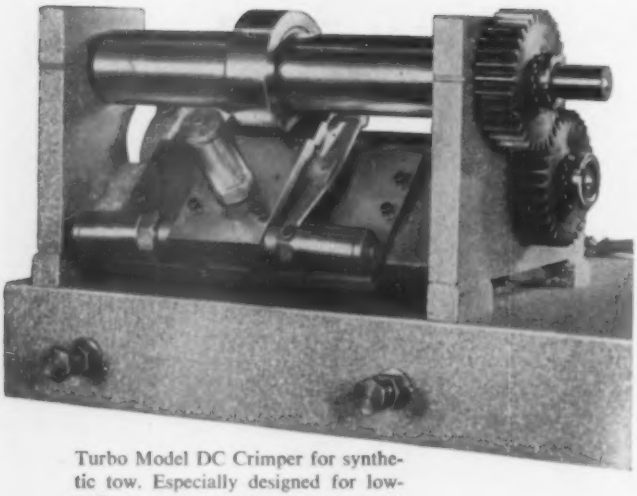
Scholler

PIONEERS IN THE BETTER FINISHES THAT MAKE THE BETTER FABRICS

Manufacturers of Textile Finishes, Resins, Softeners, Detergents, Soaps, Oils and Specialties.

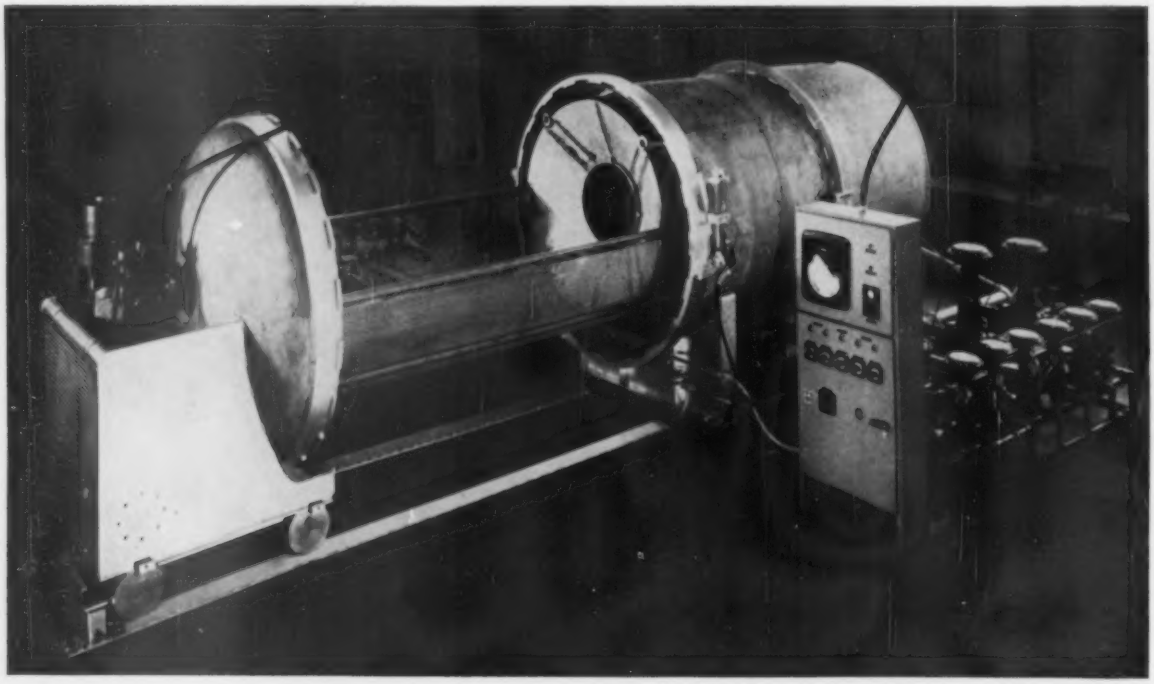
SCHOLLER BROTHERS, INC., Cotton & Westmoreland Streets, Philadelphia 24, Pa. In Canada: SCHOLLER BROTHERS, LTD., St. Catharines, Ontario

TURBO makes fibers behave . . .



Turbo Model DC Crimper for synthetic tow. Especially designed for low-stiffness, easily bent fibers. Can be used for crimping high tensile fibers which have been properly conditioned.

Turbo Model FS-1000 Fiber Setter. During processing, basket rotates or oscillates, eliminating need for separate bulking operation.



In the wonderful world of textiles — natural or synthetic — Turbo machines give fibers and fabrics sparkling new personalities. Here are just three of the many Turbo machines:

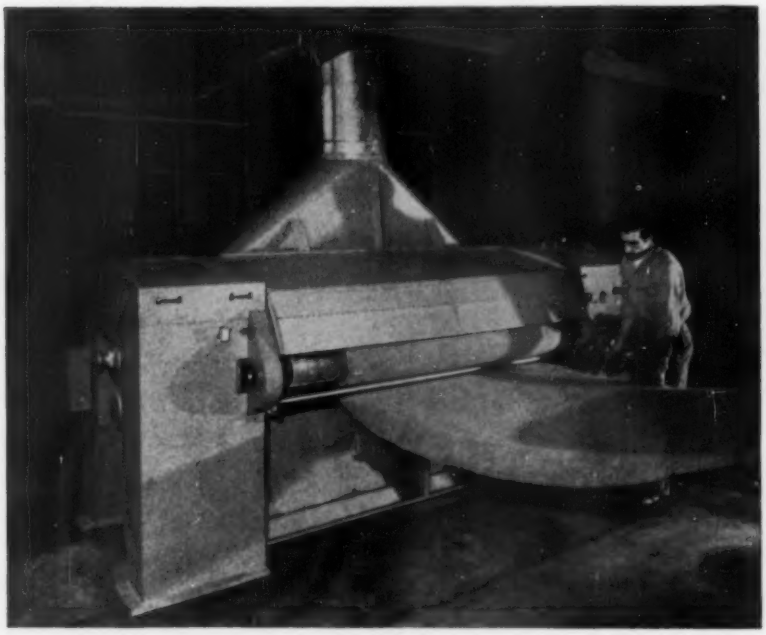
Turbo's Model FS-1000 Fiber Setter processes synthetic fibers in skeins, on bobbins, or as sliver. Capacity up to 1000 lbs. in every pressure/vacuum cycle. Completely automatic. Basket carrier is integral with door, and moves into cylinder at push of button.

Mill owners report that the Turbo Electro-Finisher adds up to $3 per yard to the value of woolen, and pile fabrics by improving appearance and hand. An electrically-heated cylinder separates and straightens the fibers, then polishes them to give new character and hand.

The Turbo Model DC Crimper uses air cylinders to assure proper roll pressure. Double and triple tow can be crimped in continuous operation. Fiber is compressed into ½-inch band as it enters the vertical stuffing box, resulting in secondary fold-over advantages.

Turbo builds a complete range of heat-setting machines for fibers, yarns, fabrics, and finished garments . . . dyeing, extracting and drying machines for skein and package yarns . . . finishing machines for wool and pile fabrics . . . Staplers and crimpers for converting synthetic tow to the finest staple . . . processing machines for tubular knit fabrics.

Write us your requirements.

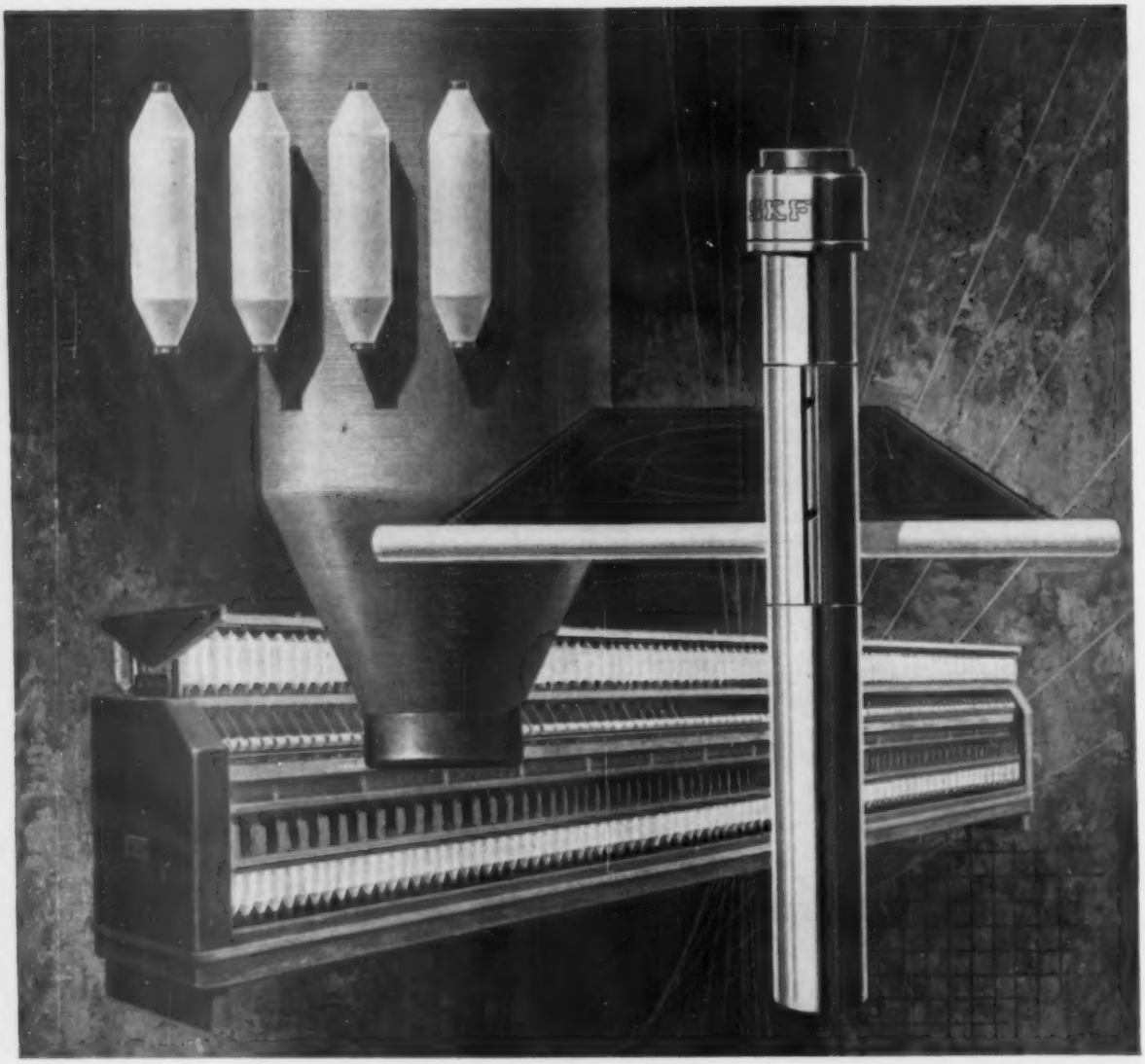


Turbo Electro-Finisher polishes wool, and pile fabrics to a vibrant luster.

TURBO

TURBO MACHINE COMPANY, LANSDALE, PA., U.S.A.

CIRCLE 125 ON READER SERVICE CARD 125



This new SKF bolster belongs in every plan for heavy-package, high-speed frames

This is our new "HF" Series Anti-friction Bolster—designed especially for textile spindles carrying heavier packages and operating at higher speeds. It promises you more profitable production through increased spindle efficiency and major operating economies.

For example, this new bolster reduces spindle maintenance to a minimum. Relubrication cost is reduced to a minimum. And you save on power—because, in many cases, cylinder RPM can be cut without affecting spindle speed or frame efficiency.

Sound right for the heavier package, faster frames you're planning? Wait till you see its smooth acceleration, vibration-free operation and precision "plumbing"! They're additional reasons why you should *specify SKF-equipped—and accept no substitutes.*

For details, call GArfield 6-6400 or write: Textile Sales Division, SKF Industries, Inc., P.O. Box #6731, Philadelphia 32, Pa. 5930

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EVERY TYPE—EVERY USE

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*Reg. U.S. Pat. Off.

It's Horse Sense . . . Why Chance Leaks in Seat Rings

Get Monel Seat BRONZE GATES made the way JENKINS makes them

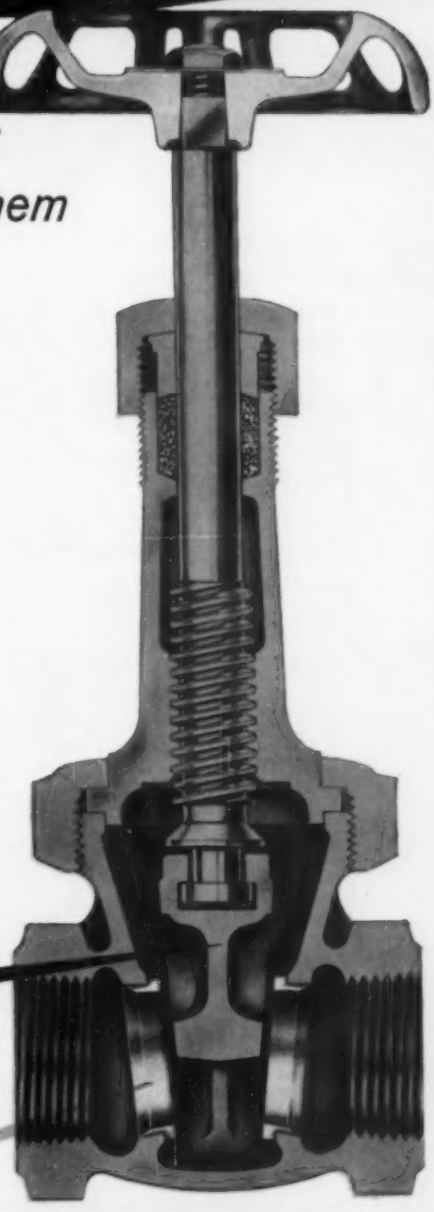
It's plain horse sense that you had better have the Monel seat rings EXPANDED (ROLLED) into the valve body if you want them to stay tight and leak-proof.

More horse sense . . . there's nothing valuable lost through having seat rings that can't be replaced by a regular maintenance man . . . **IF** the bronze or nickel alloy wedge has a lower degree of hardness than the heat-treated Monel seat rings. *(The way Jenkins makes them)* Then, the wedge takes the wear and seat rings are relatively unaffected.

Obviously, there's no faster, simpler or cheaper way to renew tightness and efficiency than to slip on a new wedge. And that, plus renewal of packing as needed, is all you need do to assure good performance from Jenkins Monel Seat Bronze Gates for as long as you'll need to care. Good service for scores of years is common.

Long, low-cost life also results from greater-than-ever-needed strength in every part of these valves. The records of millions of Jenkins Bronze Gates show you get full protection against all the stresses encountered in use.

Your local Jenkins Distributor will quickly supply your needs from a wide variety of Jenkins Bronze Gates. For information about these valves, write for folder No. 181-C. Jenkins Bros., 100 Park Ave., New York 17.



WEDGE is less hard than seat rings. Wear affects this easily replaceable part . . . NOT seat rings

SEAT RINGS are expanded (rolled) into body. Permanent, all-around support is essential to prevent deforming, loosening, shifting, LEAKS

JENKINS VALVES

LOOK FOR THE JENKINS DIAMOND

Sold Through Leading Distributors Everywhere

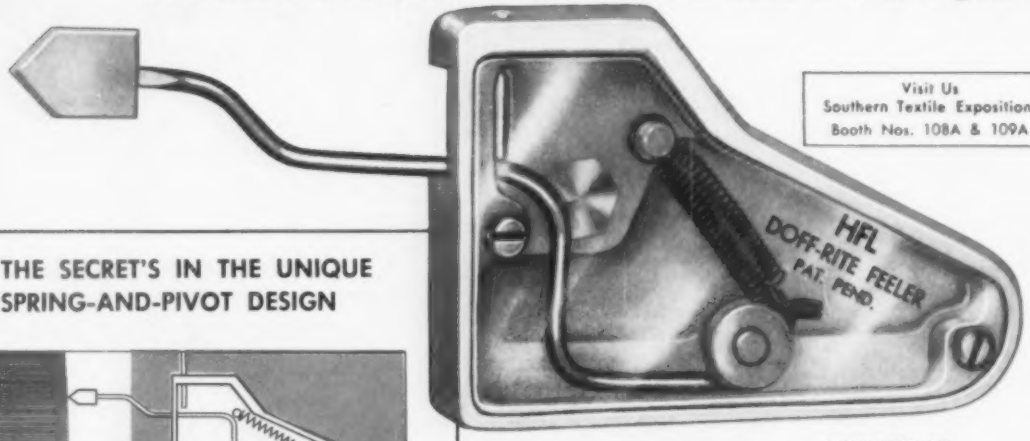
CIRCLE 127 ON READER SERVICE CARD

another **preferred** loom part

HFL ENGINEERED

DOFF-RITE* FEELER

prevents premature doffs of full or partially full bobbins, eliminates set marks and broken picks



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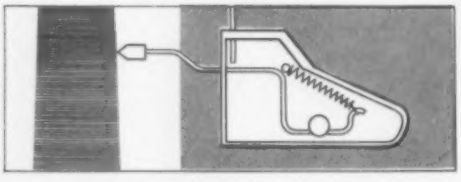
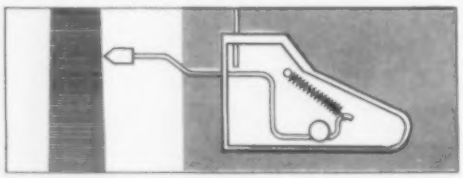
Southern Textile Exposition
Booth Nos. 108A & 109A

SHOWN ACTUAL SIZE

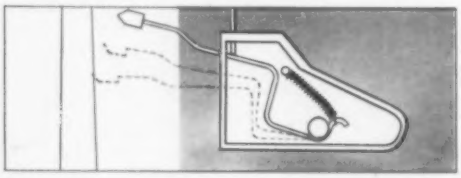
THE SECRET'S IN THE UNIQUE SPRING-AND-PIVOT DESIGN



1. **FULL BOBBIN** Doff-Rite Feeler Tip can not side-slip because "cushion" effect of filling prevents side-play. Only axial motion of Filling Feeler Tip is permitted. Efficient action of spring provides instant recoil.



2. **PARTIALLY FULL BOBBIN** Unique spring-and-pivot design increases resistance to side-slip when it is needed most — as Feeler Tip enters further into the bobbin to contact filling.



3. **EMPTY BOBBIN** The instant the Feeler Tip "feels" the smooth bobbin surface instead of the filling, it side-slips with a positive motion to actuate the Bobbin Transfer Mechanism.

* PATENT PENDING

Positive Action — Positive Savings

When a *full or partially full bobbin* is in the shuttle, Doff-Rite's spring-and-pivot design provides sturdy resistance to side-slip. Ultra-sensitive tip will not slip as long as it "feels" filling on the bobbin.

The instant the bobbin is *empty*, Doff-Rite's sensitive tip responds by side-slipping with a firm, positive motion that actuates the bobbin transfer mechanism.

Efficient spring action allows instant recoil, thus preventing feeler-tip marks, broken picks and filling run-out.

This is another example of how a preferred HFL loom part reduces downtime and helps weave better cloth.

Nylon and Steel Construction

All-nylon case eliminates friction wear, reducing downtime for repairs. Transparent removable cap gives full visibility of parts for assured settings. Replaceable nylon bushing at pivot point on which steel Feeler Tip Rod moves makes servicing simple and economical.

Interchangeable on Many Looms

HFL's Doff-Rite Feeler is designed for Draper Looms having BY-4846 Filling Feeler Guide and BY-4847 Filling Feeler Cap with Filling Feelers: BY-6769, 6782, 6799, 7242, 6818, 6946, 6949, 6950, 7241, 7243, BY-6714, 6618, 6977, 7361, 6144, 6804, 6527, 6403, 6150, 6150A.

Write for HFL Doff-Rite Feeler Data Sheets

HFL
IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

TEXTILE WORLD

POINTERS FOR SUPERVISORS

The Most Important Department

Chances are you aren't even aware of the fundamental influence on your day-to-day profitability and your personal performance that human attitudes and "facts of life" exert. Here's a look at some of the often-overlooked aspects of human relations in the mill, and hints on what you can do.

By S. G. WILLIAMS, Management Consultant, New York City

CHANCES ARE you've heard more than one argument like this: "Look, Roscoe, if we don't make the stuff, you've got nothing to sell. Maybe you sell it anyway, but if it's not made, you can't deliver—then you're really in the soup. Don't tell me. I know! Production is the heart and soul of any organization."

"Come on, now, Marty. You know you could produce till the cows come home and you'd still get nowhere if we didn't sell it. Where would the money come from to manufacture the product, if we didn't talk it out of the customer? No, sir! *Sales* is the department that makes or breaks a company."

Both Roscoe and Marty can relax. They're both wrong. No longer need there be debate as to which department in a firm is the most vital. It isn't Sales or Production. Nor is it Accounting, Engineering, Personnel, Production Planning, Administration, Inspection, Shipping, or Quality Control.

The most important department in any company doesn't have a department head, a staff, a payroll. It appears on no organization charts, has no budget, wins no awards. Yet it's there. It permeates the enterprise. It has a finger in every decision made, every communication sent. It affects every single person employed. Its name? "The Facts of Life Department."

THOSE FACTS OF LIFE

Although it doesn't have the distinguishing attributes of those departments listed above, the Facts of Life Department does have a number of divisions. There's the Power Relationship Division, the Human Nature Division, the Money Division, the Past Mistakes Division, the Risk Division, and the Departmental Changes Division, to name a few.

Because each of these divisions can corrupt the most careful plans, throw roadblocks in the path of "absolutely essential activities," and grey the hair of a conscientious supervisor overnight, it will pay you to take a realistic look at each of them—one by one.

THE BALANCE OF POWER

Perhaps you think your boss is both stupid and bigoted. But you still can't get away from the fact that he's got the power and you haven't. When a man has the power of higher authority than you—when he can fire you, or keep you from getting any of your ideas put into effect, or cut your budget—chances are you go along with him. Either that or you leave—get another job somewhere else.

But you probably aren't going to do anything like that. That's why you do things his way and forget about your own likes and dislikes. It's one of the facts of life.

Wherever you work, whatever your kind or level of job, you have power others don't have. Your bosses have power you don't have. This is true even if you're president—you still have the board of directors. And if you happen to be sole owner, you still have to answer to the little wife at home wanting to know how things are going at the plant or office.

This power relationship doesn't have to be rational. It can be based on nepotism, favoritism or cronyism, but it exists, and it exists importantly. Wherever there are people who hold the responsibility for decisions, they also hold the power to make those decisions. They don't always use the power in the best of

all possible ways. What matters here is that, however they use it, they do have it. It's a fact of life they have to live with.

UNDERSTANDING PEOPLE

What you are going to do about a superior who has all the attributes of the successful manager except that he is lazy? Or the one who insists that you be in at the crack of dawn and stay to the bitter, dusky end, but keeps bankers' hours of 10:00 to 3:00 himself? The answer to both those questions and a whole lot of similar questions is one word: "Nothing."

Any time you're dealing with human beings (and despite how you might feel about it, the personnel in your company do qualify for that designation), you're also coming face to face with "human nature".

Dr. Mortimer R. Feinberg, President of BFS Psychological Associate, Inc., New York City, says there are only three ways to change a person's nature: religious conversion, psychotherapy and brain surgery. Because you and I are not in a position to try any one of the three, we have to accept the way people are as a fact of life.

MONEY TROUBLE

Even though the controller of your firm is a very sensible fellow, he's likely to sound crazy as a loon to you once in a while when he says familiar words like these:

"I agree with you, Joe. It's a wonderful idea. But forget it. We haven't got the money."

Controllers, chief accountants and their colleagues in the financial end of the business are never candidates for popularity contests, primarily because they are charged with maintaining the facts of life about money. Who else can look at an expense account and exclaim:

"Did you have to pay $6.00 for a hotel room, just because the convention was in Chicago? And $3.50 for dinner! Where am I supposed to get that kind of money?"

Every supervisor in the world knows vital improvements he could make in efficiency, safety, quality, morale and all the other areas—*if* they'd give him the dollars to do it. The facts? Dreams they are and dreams they must remain.

YOU AND YOUR PAST

Here's the operations vice president of a Carolina mill talking:

"Listen, I don't like it. Bob's a personal friend of mine. We worked together in New England before we came down here. But we can't get away from the fact that Bob spent a lot of time on the Fuller project. He wasn't responsible for the failure. You and I know that. Everyone else knows it, too. But he was involved. His name is still closely associated with it, and he'll be suffering for it as long as he's around."

Logical? Make sense? Certainly not. But it's a fact. We have a hundred successes and one failure, perhaps so remote a failure as Bob's, where he wasn't even the guilty party. People remember the successes, yes, but the failure stands out in their memories a little bit clearer, a little bit sharper. Tragedy? No, just fact.

TAKING RISKS

Peter Drucker, with his usual authority and accuracy, stresses risk-taking as an essential factor in the activities of any manager or supervisor. Another word for "risk" is "gamble." When you gamble you sometimes win, sometimes lose. Yet the reality is that there's no alternative, unless you're willing to pull in your horns, crawl off in a corner, and simply do nothing—which is hardly the best method for getting ahead in business.

So we take the risks, reducing the gamble as much as possible through careful planning, collecting all the pertinent data we can, and using our most thoughtful judgment, but never forgetting for a moment the fact of life that risks involve losing more times than we like to think.

THE COST OF CHANCE

Supervisors usually are busy in one department while their bosses are engaged in more than one. This almost always brings about changes that the supervisor cannot entirely understand. Your *best* employee gets transferred to another department? What you are likely to see and understand is that you yourself have been deprived. No one can expect you to appreciate that the need for your man is substantially greater in the other area. In reverse, you are given a joker who has been the bugaboo of every supervisor who has had him? Why don't they sell you on the idea that you're the *one* supervisor capable of making something out of the fellow? They might, but they don't. Not often, anyhow.

UNION ILLOGIC

Admit it. If the union representatives ever came in with nice, clean, logic-filled arguments, you'd be utterly astonished. So here's one fact of life to which most managers have made easy adjustment. You expect the union fellows to be a bit lax with their reasoning, if for no other reason than that their point of view differs from management's. By the very nature of things their demands will be a bit flamboyant. You naturally expect them to ask for more than they expect to get. This leads to the Number One question about the whole Facts of Life Department. It's just this:

WHAT DO YOU DO?

Nothing is more unfortunate than to watch an otherwise intelligent and effective supervisor agonizing because he can't change facts. The poor guy continues to beat his head against an unbreakable stone wall, and all he gets out of it is more frustration and a headache.

The secret is a simple one: *Accept* the presence and the power of the Facts of Life Department. This doesn't mean that no "facts of life" can ever be changed. In time, many of them can and do change of their own volition. But one whale of a lot of unhappy time can be wasted trying to change people when they resist it, or chafing about their stubbornness.

Some genius—perhaps a textile supervisor—came up with a little prayer that reads:

"God, give me the serenity to accept the things I cannot change, courage to change the things I can, and wisdom to know the difference."

A supervisor who hung that little prayer above his desk would find it served to remind him both of what is "the most important department" and of what he can do about it.

SACO-LOWELL

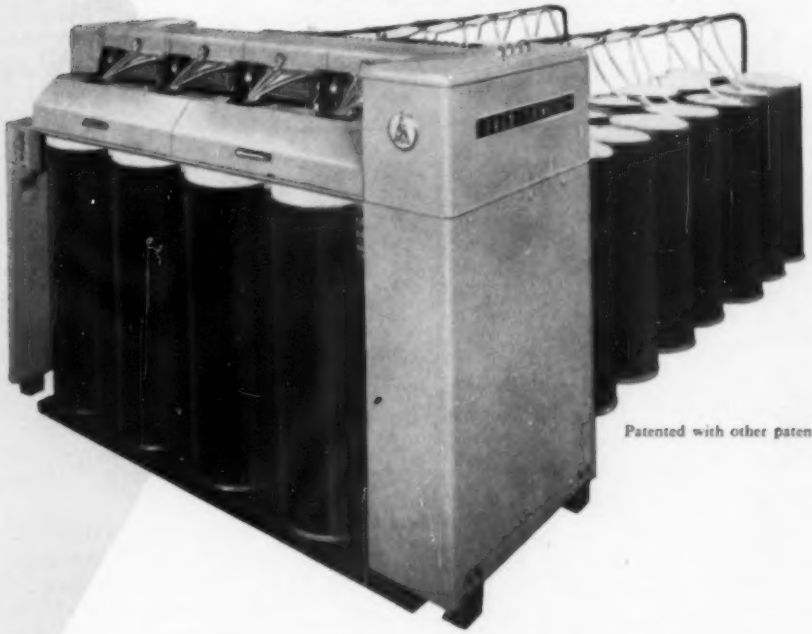
versa-matic

DRAWING

Delivery speeds to 600 ft per minute

18"X42" delivery cans

Highest production by every standard — per delivery, per man hour, per square foot of floor space.



Patented with other patents pending.

New VERSA-MATIC Drawing opens a new era in drawing production. *Pneumatic clearers* and 18" dia. x 42" high delivery cans give maximum efficiency rates.

VERSA-MATIC is completely automatic except for creeling the stock and doffing the cans. Outstanding features include the use of anti-friction bearings throughout; fine change gears which permit minute changes in sliver weight and complete precision gearing 100% tested and inspected before installation. For highest efficiency plus maximum production of uniform sliver VERSA-MATIC belongs in your mill.

THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

Saco-Lowell Textile Machinery Division

SACO-LOWELL SHOPS

Executive and Sales Offices: EASLEY, SOUTH CAROLINA

Branch Sales Offices: ATLANTA, GA., CHARLOTTE & GREENSBORO, N. C., GREENVILLE, S. C., SACO, ME.

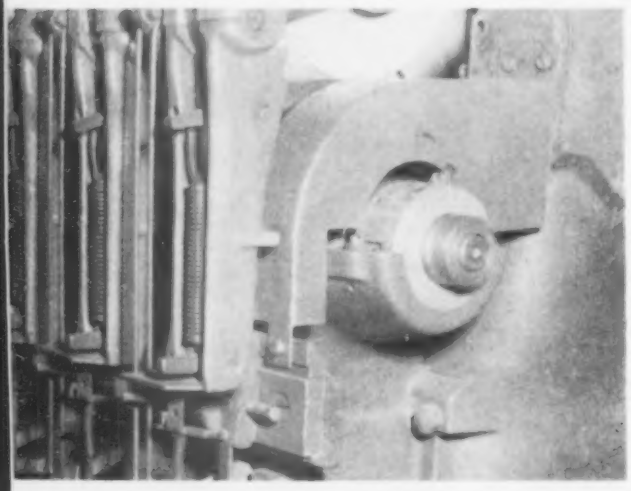
TEXTILE WORLD . . . COST CUTTERS

Rack Holds Three Types of Beams

The beam racks in the accompanying photograph installed at Schwarzenbach Huber Co., Altoona, Pa., pay off in the following ways: (1) Beam heads and journals aren't damaged in storage. (2) Warp yarns are protected. (3) Stored warps are completely out of the way. (4) The warp-preparation room is always neat. (5) Beams are stored and removed easily.

The A-girders are welded from channel iron, and angle-iron rails are welded to each side of the A-girders so that beams are stored on both sides of the racks. The rails form troughs to hold the beams.

Usually drawn warps are stored on the first tier, slashed warps to be drawn on the second, and empty beams on top. Each tier has storage space for eight beams of 68- to 70-in. journal-to-journal length, and 48 beams can be stored in each rack.



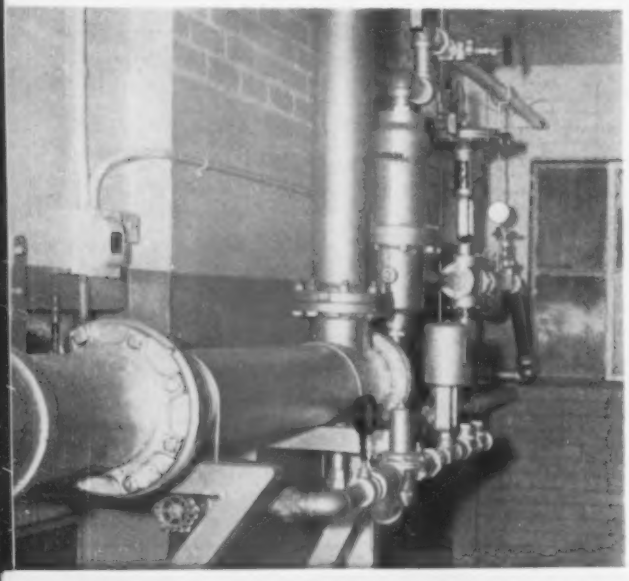
Sealed Bearings Cut Maintenance

Four years ago, Woodside Cotton Mills, Greenville, S. C., was having trouble with drum bearings at its spoolers. The bearings had to be oiled twice weekly, and frequently they burned out.

The 288-spindle spoolers run 1,271 yards per minute. Drum speed is 1,665 rpm., and running time per round is 4.33 minutes. At these speeds, considerable oil was thrown out of the bearings, and the oily machine surfaces picked up a lot of lint.

Tired of cleaning up this mess, Woodside replaced the old bearings with New Departure sealed bearings.

Results: Today—four years later—these bearings are running as well as when they were first installed. Oily surfaces and yarn have been eliminated, over-all cleaning time has been cut in half, oilers' duties are simpler, yarn quality is better.



Heat Exchanger Pays Its Way

Vision Hosiery Div. of Knit Products Corp., Belmont, N. C., saves most of the heat units from the steam used in 14 of the 19 preboarding units.

The preboarders use about 3,500 pounds of steam per hour in an on-and-off cycle of 5 minutes per load of women's nylon hose. Exhaust from the preboarders is led through an 8-in. line to the shell of the heat exchanger, which contains copper tubing that carries water to be heated for dyehouse use.

The heated water is stored in a 5,000-gal. tank and is circulated constantly through the heat exchanger system. All condensate is returned to boiler feed. A Magnetrol valve maintains a constant level in the hot-water system by opening the fresh-water supply valve as needed. Heat & Power Equipment Co. of Charlotte, N. C. engineered the job.

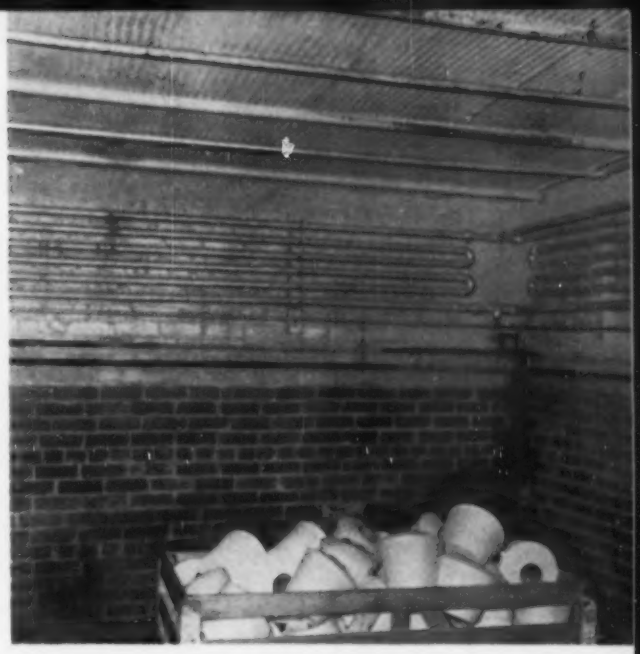
If Your Conditioning Room Drips . . .

. . . All is not lost. Falls Mfg. Co., Granite Falls, N. C., for a long time was pestered with this problem. Condensation dripping on the yarn damaged at least 3% of Falls' 60,000-lb. weekly production.

In round figures, about 1,800 pounds of yarn per week got too much moisture and had to be rewound. Some was spoiled beyond redemption. At 80¢ per pound, nearly $1,500 worth of yarn was affected per week.

The conditioning room used by Falls had a flat 6-in. concrete ceiling that caused condensation to form and drop on the yarn below.

The problem was solved by mounting a false ceiling of corrugated aluminum under the concrete slab. Now, when moisture condenses on the ceiling it runs off to the rear and down through a drain.

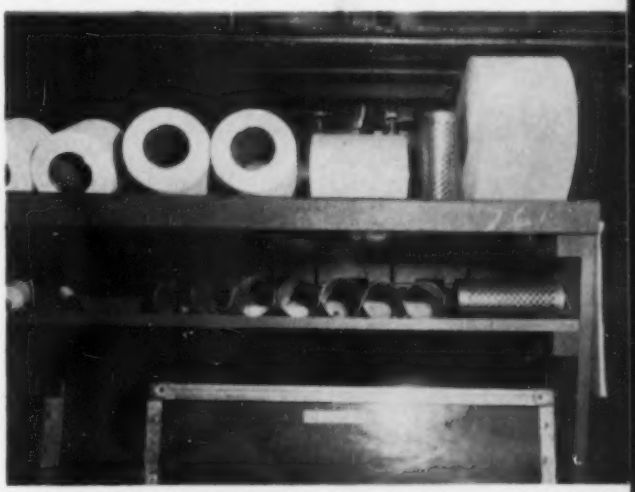


Spool Cheeses on Dye Tubes

Russell Mfg. Co., Alexander City, Ala., used to dye on springs and backwind on cones for warping. The steps added about 2% to the cost of socks.

When new Barber-Colman spoolers were installed a while back, Russell technicians got the idea that the new spoolers could wind yarn into cheeses on stainless-steel dye tubes. The idea worked, and now Russell is dyeing certain patterns of combed warp in cheese form that cannot be beam-dyed satisfactorily. No rewinding is necessary. Filling yarn can be handled in the same manner when extra production is needed.

The normal warp cheese made by Russell weighs 1.5 pounds, and the filling cheese weighs 2.5 pounds. However, cheeses (such as the one shown on the right) weighing 4.6 pounds and containing 157,000 yards of yarn have been dyed successfully.



Stockings Too Long or Too Short?

Answer to that question at Outlook Mfg. Co. (Lineberger Mills), Belmont, N. C., is given by an instrument that keeps hosiery lengths within ±½ inch. Along with 250 new seamless-hosiery machines, Outlook added a new Volumet instrument (made by Joseph C. Colbert Associates) to help in controlling hosiery length with great precision.

Stockings are checked for four features:

1. Foot size,
2. Leg length,
3. Welt, and
4. Afterwelt.

The chart used to record stocking length has two lines to indicate a tolerance of ± ½ inch.

Stockings out of this tolerance are shown immediately, and the knitting foreman is informed.

COST CUTTERS . . . *Begins on page* 132

Tufting Machines Boost Yarn Sales

Delivery time of new tufting yarns has been cut sharply at Candlewick Yarn Mills, Inc., Dalton, Ga., with table-model tufting machines added at the mill recently. There are six machines with various numbers of needles so that a wide variety of patterns can be tufted quickly.

When Candlewick receives an order or an inquiry for a given yarn number, type, and blend for a specific end use, it tufts a pattern from the first yarn that is produced.

Then it piece-dyes the fabric to the end color desired. In this way, both the yarn customer and Candlewick know immediately what changes have to be made in yarn specifications.

In addition to color, the sample shows other features such as good hand, good abrasion strength, and stain resistance.

How to Chase Lint for $25

Wild yarn and lint at the spooler used to cause a lot of concern at Beaumont Div., Spartan Mills, Spartanburg, S. C. Drum brushes were cleaned on a 4-hr. cycle, but between cleanings considerable lint and yarn broke loose from the brushes and got into the work. Warper stoppage was much too great, weaving efficiency was lowered, and directly traceable seconds were too high.

Beaumont almost completely eliminated this costly trouble by building a vacuum cleaner for the drum brushes. The device consists of (1) a piece of pipe welded over a hole in the housing of the traveling fan, (2) a screen that fits inside the pipe, and (3) a short length of vacuum hose. The vacuum nozzle cleans the drum brushes at every cycle of the traveler. Lint on the screen was collected in about 2 hours. Cost: About $25 in time and materials.

Standby Equipment Cuts Costs 50%

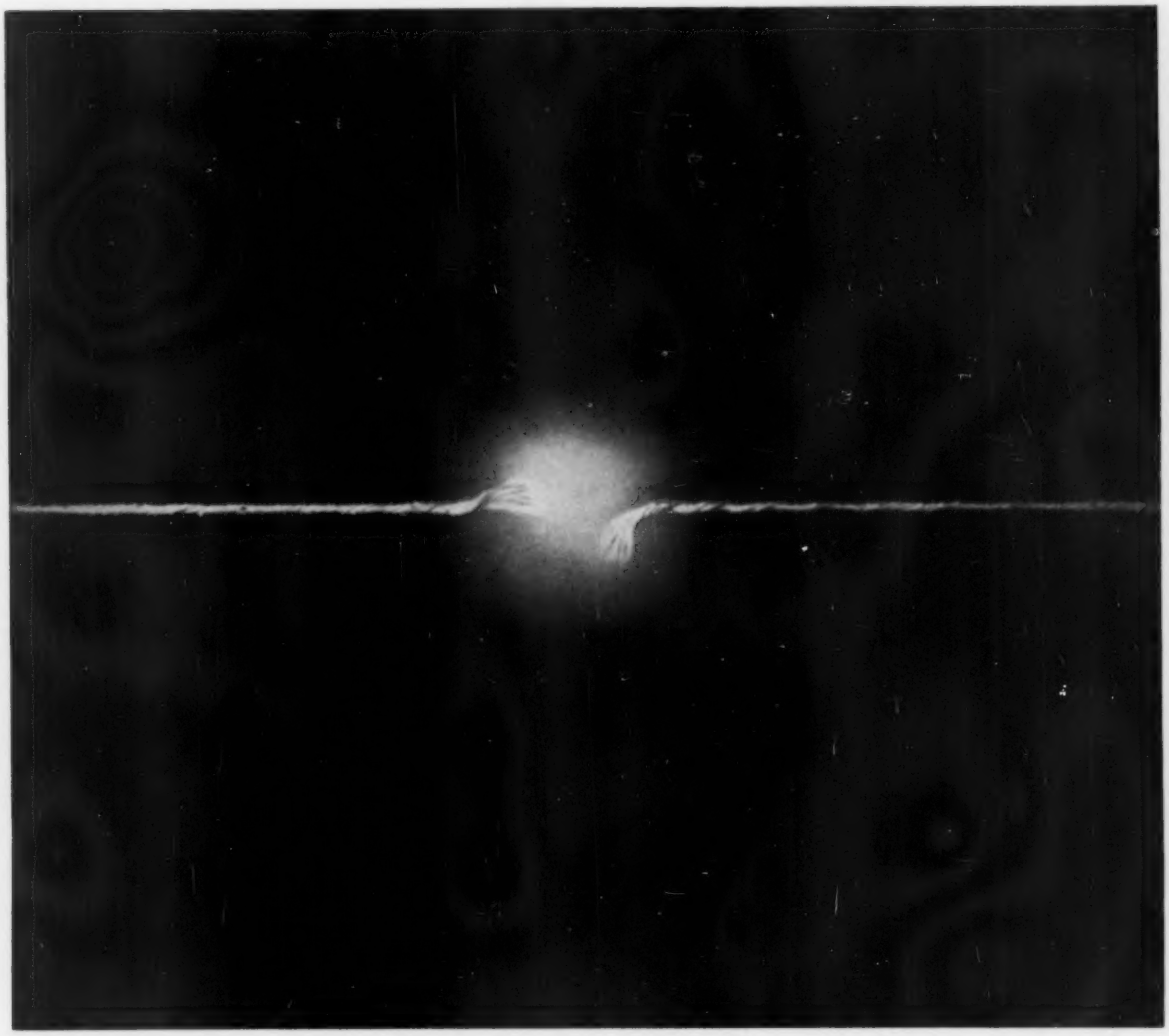
Costs of gas for processing and steam production have been cut by 50% at Rock Hill Printing & Finishing Co., Rock Hill, S. C.

Primary source of savings is a switchover from bottle propane gas to natural gas, but this step wouldn't have been practical without making some provision for natural gas outages.

To take care of such emergencies, Rock Hill put in an Allis-Chalmers sliding vane rotary compressor that is hooked in to the propane supply. The propane mixture flows to the compressor at 14 psi. and is delivered at a rate of 255 cfm. at 40 psi. The propane gas, which carries 2,400 Btu. per cu. ft., is diluted to meet the combustion characteristics of natural gas.

Previous consumption of bottled gas had been between six and seven carloads per month.

ALLIS-CHALMERS



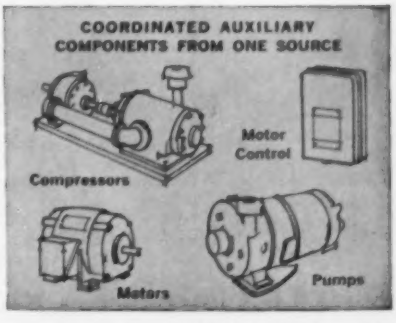
Yarn breaks braking your production?

get temperature and humidity control with Allis-Chalmers equipment

You can produce better quality faster when your mill is air conditioned for control of temperature, cleanliness and humidity. Breaks are reduced. Operating speeds can be increased. Finished products have a more consistent high quality.

The Allis-Chalmers textile industry team is well acquainted with your needs for air conditioning systems and stands ready to assist you, your consulting engineer or equipment supplier. Only A-C can furnish one-source responsibility for auxiliary components . . . a complete line of pumps, motors, motor control, water conditioning equipment, air compressors, transformers, switchgear and substations.

For information on any of these products or other Allis-Chalmers products for the textile industry, call your nearby A-C representative or write **Allis-Chalmers,** *Industrial Equipment Division, Milwaukee 1, Wisconsin.* A-1331



CIRCLE 135 ON READER SERVICE CARD 135

What to See at the Greenville Show,

Now's the time to get set for your trip to the big show next month. You'll save both time and trouble by using this handy Guide to Exhibitors two ways—(1) Right now, to familiarize yourself with what's in store for you in Greenville; and (2) at the show itself, to speed you on your way from exhibit to exhibit.

Here, on these pages, you'll find the list of companies—alphabetically arranged—that will have their wares on exhibit. Each listing includes annex location and booth number. Then on page 148 you'll find a list of exhibited products that are classified according to the kind of job you want done—dyeing, machine-shop equipment, packaging, and so on.

HOW TO USE THIS GUIDE

Look up company name in the Index to Exhibitors. Next to it you'll find a key letter and booth number. Check the floor plan for the key letter, then find the booth in that area. It's simple.

Looking for a particular product? Turn to the Index to Products on page 148. Check the listings for the category. Then turn to that page and check the companies listed here with the products they are showing. A key letter and booth number accompany each company name so that you can easily find the booth on the floor plan. Once you find the booth on the floor plan, you're on your way.

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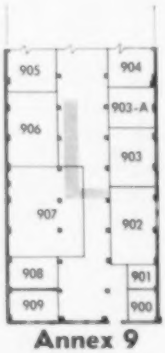
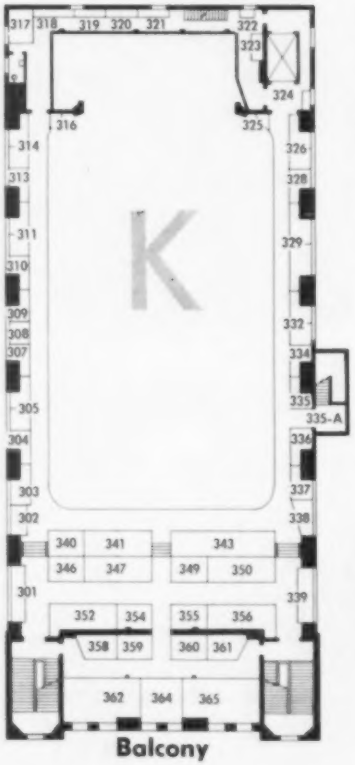
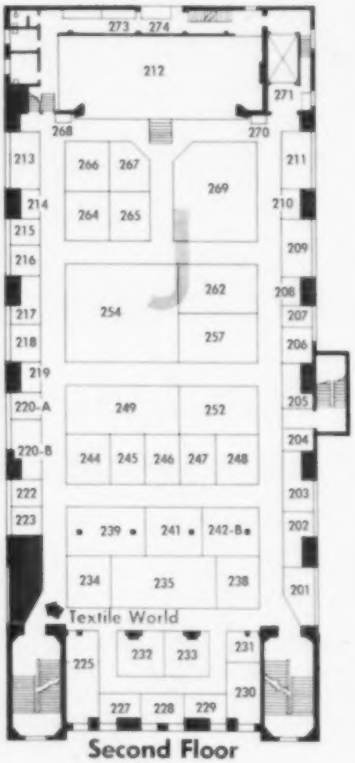
Atkinson, Haserick & Co., Inc.	I-817
Atlanta Brush Co.	E-420



Annex 9



Balcony



Second Floor

Oct. 3-7

EXHIBITOR	BOOTH
B	
Bahan Textile Machinery Co.	A-140
Bahnson Co.	H-830
Baker Industrial Trucks, Div. Otis Elevator Co. Represented by Baker Mfg. Co.	H-834
Baker Mfg. Co. Representing Baker Industrial Trucks, Crown Co., Motor-Truc Co.	H-834
Bal Corp., William Represented by Jenkins Metal Shops	G-838
Band-It Co.	K-321
Barber-Colman Co., Textile Div.	J-254
Bassick Co.	E-4111
Batson Mfg. Co., Inc. Representing T. J. Murphy Fur Co., Roy Noble Co.	J-223
Best & Co., Edward H.	J-268
Bijur Lubricating Co. Represented by Cotton-McCauley Co.	I-828
Birch Brothers, Inc.	J-248

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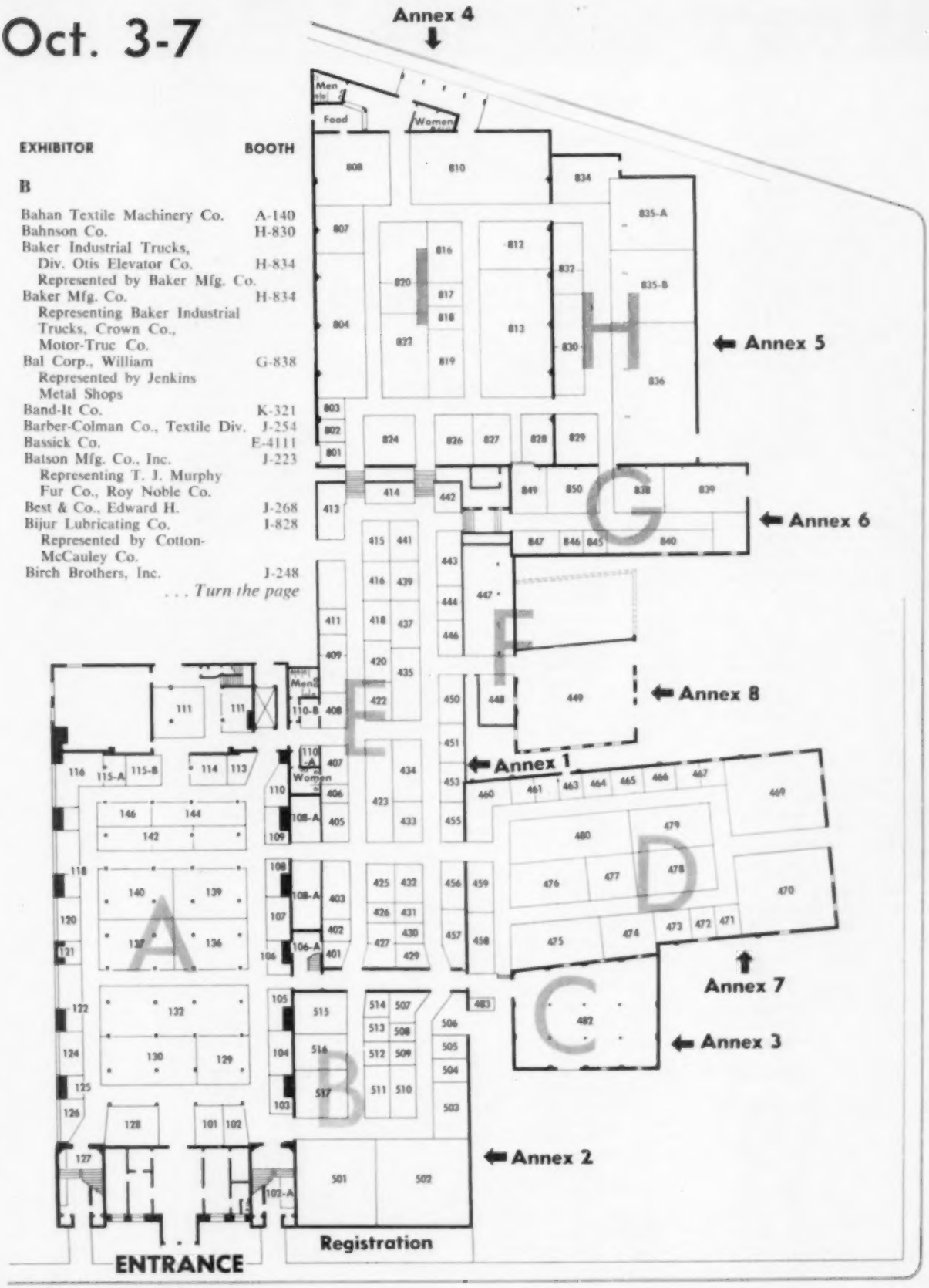


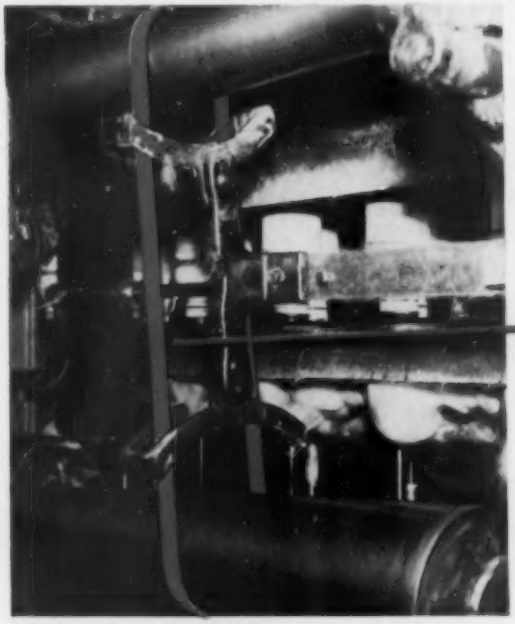
EXHIBITOR	BOOTH
Booth Co., Benjamin Represented by Hurley & Harrison, Inc.	D-464
Boston Gear Works Represented by Greenville Textile Supply Co.	J-212
Boston Woven Hose & Rubber Co.	A-102-A
Bouligny Co.	E-474
Bowen-Hunter Bobbins Co. Represented by Greenville Textile Supply Co.	J-212
Brainard Steel Div., Sharon Steel Corp.	F-477
Browne & Sharpe Mfg. Co. Represented by Livingston & Haven, Inc.	J-264
Bullard Clark Co.	E-422
Burlap Tubing Manufacturers, Inc.	K-325
Burlington Mills Represented by Holte Associates, Inc.	E-432
C	
Cable Carriers, Inc.	K-364
Carolina Belting Co. Representing Russell Mfg. Co., James E. Hay Co.	J-217
Carolina Brush Co., Inc.	K-309
Carolina Fiberglass Products Co.	K-335-A, L-900
Carolina Radio Supply Co., Inc. Representing Micro-Switch, RCA, Sylvania Electric Products, Inc., Potter & Brunfield Relay Co., Ohmite Mfg. Co., Triplett Elec. Instrument Co.	K-328
Carolina Supply Co.	J-230
Carter Inc., A. B.	A-124
Cen-Tennial Cotton Gin Co.	I-824
Center Chemical Co.	K-304
Chandler Machine Co.	K-359
Chavis Textile Sales Co.	A-115-A
Chesterton, A. W. Represented by Schacher Leather & Belting Co.	J-228
Chicago Trumrail Corp.	L-904
Clark Door Co., Inc.	K-338
Clark-Cutler-McDermott Co. Represented by Yeomans Textile Machinery Co.	E-449
Clark Equipment Co.	D-475
Cleveland Tramrail Div., Cleveland Crane & Eng'g. Co. Represented by Engineering Sales Co. of Charlotte	A-115-B
Clinton Corn Processing Co.	J-205
Coats & Clark, Inc.	B-512
Cocker Machine & Foundry Co.	H-836
Colson Corp. Represented by Wrenn Bros.	E-480
Cometsa Spindle Co.	L-908
Continental Diamond Fibre Corp.	D-461
Continental Tapes Represented by General Enterprises, Inc.	K-341
Corn Products Sales Co.	E-441
Cotton-McCauley & Co., Inc. Representing Machinecraft, Inc., Whitehead Die Casting Co., Bijur Lubricating Co.	I-828
Crabtree Textile Accessories, Inc.	K-339
Creamery Package Mfg. Co.	A-127
Crompton & Knowles Corp.	A-139
Cronland Warp Roll Co., Inc. Represented by G. F. League Mfg. Co.	A-106-A
Cross Sales & Eng'g. Co.	J-218
Crown Co. Represented by Baker Mfg. Co.	H-834
Curtis & Marble Machine Co.	J-235
D	
Daily News Record	J-210
Daiwa Spinning Co., Research Dept Represented by Edward S. Rudnick, Reps.	L-905
Darnell Corp. Ltd. Represented by Greenville Textile Supply Co.	J-212
Davis & Furber Machine Co.	E-476
Davison Pub. Co.	Lounge, 2nd Fl.
Dayco Textile Products Co.	A-136
Dinsmore Mfg. Co. Represented by Hollister-Moreland Co.	J-234
Dixie Bobbin Co. Represented by Holt Associates, Inc.	E-432
Dixie Bearings, Inc.	E-416
Dixon Corp.	G-850
Dixon Crucible Co., Joseph	K-332
Dockery Mfg. Co. Representing Texpak Plastics, Inc.	K-311
Dodge Mfg. Corp.	F-403
Dorris Co., George P. Represented by Ira M. Valentine	E-429
Draper Corp.	A-132
Durant Mfg. Co. Represented by M. R. Snyder Co.	L-903
E	
Eaton Mfg. Co., Cleveland Worm & Gear Div. Represented by Electro-Mechanical Engrg. Co.	B-506
Eaton Mfg. Co., Dynamatic Div. Represented by Electro-Mechanical Engrg. Co.	B-506
Eaton Mfg. Co., Farval Div. Represented by Electro-Mechanical Engrg. Co.	B-506
Eclipse Machine Div., Bendix Aviation Represented by Greenville Textile Supply Co.	J-212
Economy Textiles, Inc. Represented by Edward S. Rudnick	J-245
Edda International Corp.	A-129
Electro-Mechanical Eng'g. Co.	B-506
Electro Motion Corp. Representing Acoustica Associates, Inc.	B-506
Engineering Sls. Co. of Charlotte Representing Globe Co., Magnesium Corp. of America, Nutting Truck & Caster Co., Standard Conveyor Co.	A-115-B
Engineered Plastics, Inc.	G-846
Equipto Div., Aurora Equipment Co.	K-305
Esso Standard, Div. Humble Oil & Refining Co.	E-472
Exact Weight Scale Co.	J-208
Excel, Inc.	J-233
Extremultus, Inc.	A-126
F	
Fairbanks Co.	B-459
Fairbanks, Morse & Co.	A-102
Faultless Caster Corp.	D-473
Federal Pacific Electric Co.	A-108
Felters Co.	K-349
Fenwal Inc. Represented by W. K. Hile Co., Inc.	E-426
Finnell System, Inc.	A-110
Fisher Mfg. Co., Inc.	K-314
Fletcher Works, Inc.	I-807
Foster Machine Co. Representing Lindly & Co., Inc.	I-827
Foulds & Son, I. Represented by Hurley & Harrison, Inc.	
Foxboro Co.	E-405
Fuller Co. Represented by Livingston & Haven, Inc.	J-264
G	
Garland Mfg. Co.	A-106
Gaston County Dyeing Machine Co.	I-802
Gates Rubber Co.	E-443
Gault Co., P. C.	K-354
General Box Co.	K-308
General Electric Co., Apparatus Div. & Large Lamp Div.	A-116
General Enterprises, Inc. Representing Ore-Lube Corp., Continental Tapes	K-341
Georgia-Carolina Oil Co.	A-113
Gilman Paint & Varnish Co.	E-446
Globe Co. Represented by Engineering Sales Co.	A-115-B
Globe Gear Co. Represented by M. R. Snyder Co.	L-903
Glover Wood Turning Co., Inc. Represented by Holt Associates, Inc.	E-432
Goldens' Foundry & Machine Co.	J-219
Goodyear Tire & Rubber Co. Represented by Baker Mfg.	H-834
Graton & Knight Co.	B-507
Great American Industries Represented by B. F. League Mfg. Co.	A-106-A
Greenville Textile Supply Co. Representing Pioneer Heddle & Reed Co., Inc.; Bowen-Hunter Bobbin Co., Inc.; Lestershire Spool & Mfg. Co., Div. National Vulcanized Fibre Co.; Eclipse Machine Div., Bendix Aviation Corp.; Boston Gear Works; W. T. Lane & Bros., Inc.; Darnell Corp. Ltd.	J-212
Griffin & Sons, Ira L. Representing Hubinger Co., Textile Shops	B-501
Gulf Oil Corp.	J-211

... *Turn to page* 142

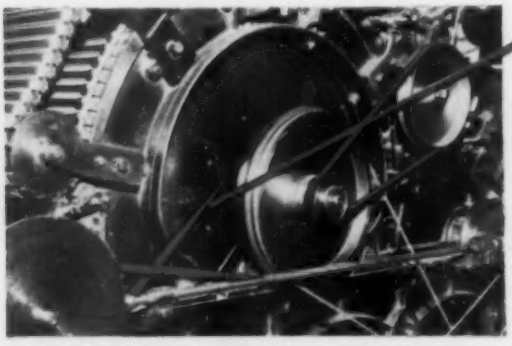
MODERN EXTREMULTUS BELTING

- IMPROVES QUALITY
- INCREASES PRODUCTION
- REDUCES MAINTENANCE
- CUTS COSTS

TWISTERS • constant spindle speed • not affected by oil • outlasts all others



ROVING FRAMES • improves building action • cuts ends down in half • eliminates tension gear changes between doffs



CARDS • improves sliver quality • increases production • eliminates belt take-ups

TWISTERS

AUTO LEVELLERS

WINDERS

PICKERS

SPINNING FRAMES

ROVING FRAMES

OPENERS

LOOMS

WOOLEN CARDS

COTTON CARDS

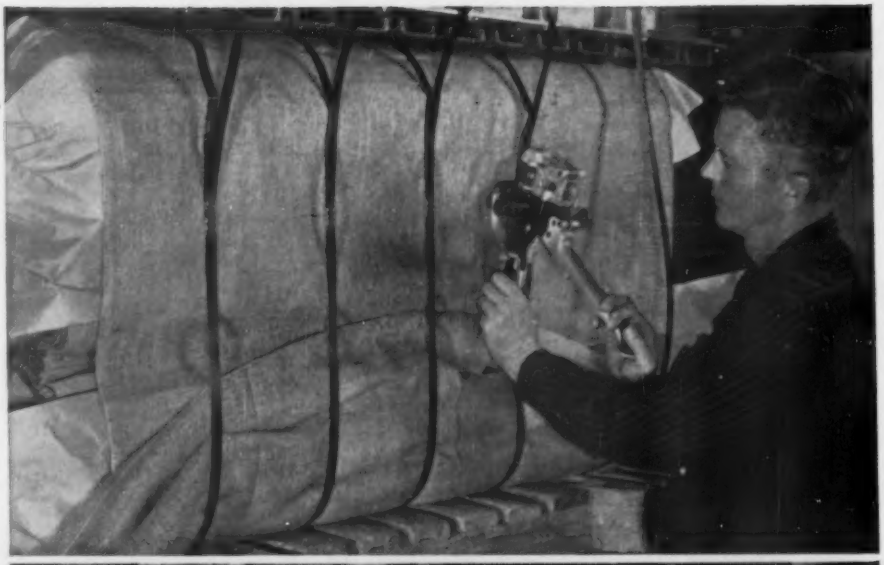
See actual drives demonstrated at the Southern Textile Exhibition, Booth 126.

EXTREMULTUS, INC.

25-11 40th Avenue, Long Island City 1, N. Y.

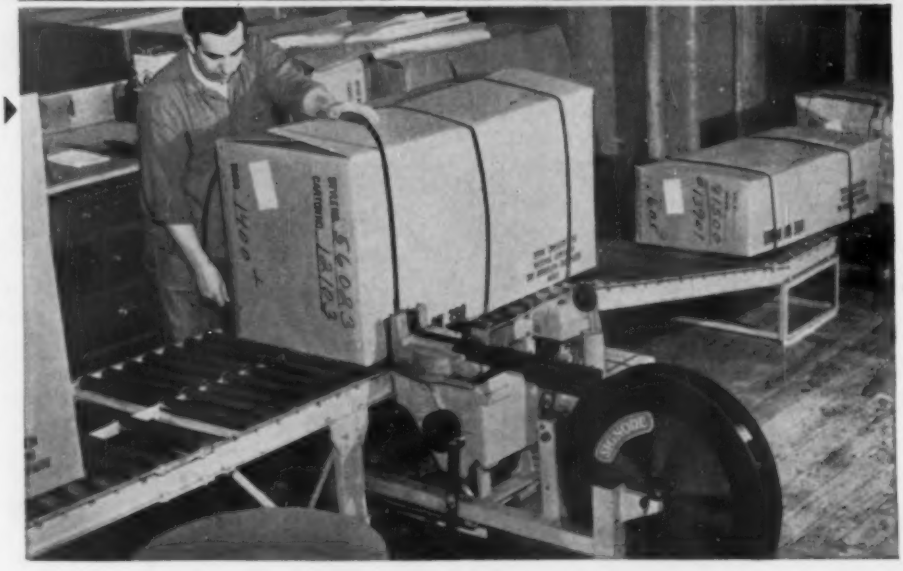
CIRCLE 139 ON READER SERVICE CARD

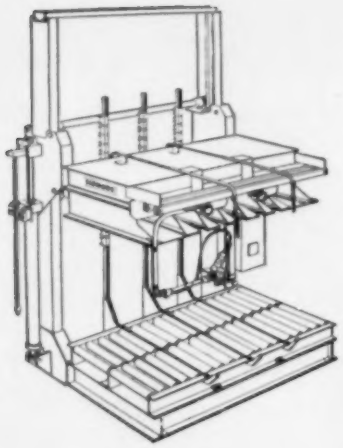
Signode Model SFC manually-operated seal feed strapping tool tensions, seals and scores strap at the seal for easy break-off with fast, smooth, one-arm movement. Weighs only 6½ lbs., and its almost perfect balance makes it easy to handle with one hand. In the illustration, the operator is using the SFC in the Signode strap-saver baling method, which reduces strap use by as much as 17%.



Signode Power Strap Feeder is a motorized, foot-pedal operated device for putting strap around big packages. It eliminates the need for a helper, enables one man to strap as many as 500 large cartons per day. Can be used with the Model AP strapping tool shown, or any of Signode's hand, air, or electric powered combination strapping tools.

Signode Power Strapping Machine automatically feeds, tensions, seals and severs the strap in seconds. One operator readily applies strapping more than fast enough for the highest production rates. May be used on cartons, bundles, boxes or bales of varying sizes, giving uniform pre-set tension at the touch of a foot pedal. Completely automatic strapping stations also available.





New Signode Compression Strapping Machine designed specifically for the textile industry makes tight, compact packages or bales that cost less to handle, store, ship and receive. It has a compression capacity of 2,000 pounds and is equipped to feed strap automatically around package or bale. Tensioning and sealing is done with any Signode hand-operated air or electric power combination strapping tool or machine. Resulting denser bales save as much as 7% of valuable space in storage and shipment.

Save Time, Money, Manpower ...the Signode Way

Signode can probably help you find ways to make substantial savings in time, money and manpower. Here are some of the reasons why we think so:

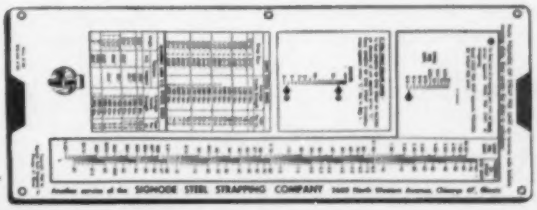
Our line of strapping equipment permits selection of the tool or machine that is right for the job. It includes hand tools, power tools, feeders, presses, and completely automatic machines. Our continuing program of product improvement is backed by 45 years of specialized experience.

The Signode man near you is experienced in the application of this equipment to textile strapping and packaging operations. He also can offer, if needed, the services of Signode's field engineering staff and extensive testing laboratories at no cost to you.

If you have not reviewed your strapping operations quite recently, it will almost certainly pay you to do so, with Signode. Potential savings go beyond the strapping operation....include savings for you in handling, storing, and shipping, plus savings for your customer.

The coupon below is for your convenience.

FREE! NEW Signode Steel Strapping Calculator helps you buy steel strapping at least cost according to your needs, and shows new strength figures for Signode steel strapping.



☐ Combination Strapping Tools
☐ Power Combination Strapping Tools and Feeders
☐ Air Power Tensioners & Sealers
☐ Compression Strapping Machines
☐ Power Strapping Machines
☐ Adjusta-Pak 3-way telescoping container
☐ We'd like to talk to the Signode man

First in steel strapping

SIGNODE STEEL STRAPPING CO.
2642 N. Western Avenue, Chicago 47, Illinois

Please send new Signode Steel Strapping Calculator and additional information on the items checked.

NAME_____

FIRM_____

ADDRESS_____

_____

Offices Coast to Coast • In Canada: Canadian Steel Strapping Co., Ltd., Montreal, Toronto

EXHIBITOR	BOOTH
H	
Hatcher Sales Co., Inc. Representing Stanley Works	D-467
Hay Co., James E. Represented by Carolina Belting Co.	J-217
Hayes Industries, Inc.	E-433
Heany Industrial Ceramic Corp.	B-514
Herr Mfg. Co., Inc.	J-267
Hile Co., W. K. Representing Fenwal, Inc.; Hotwatt, Inc.; Instruments, Inc.	E-426
Hill Mfg. Co.	K-358
Hilliard Corp. Represented by M. C. Snyder Co.	L-903
Hollister-Moreland Co., Inc. Representing American Safety Table Co., Dinsmore Mfg. Co., Merrow Machine Co.	J-234
Holt Associates, Inc. Representing B. Snowiss Fur Co., Rice Dobby Chain Co., Norris Bros., Glover Wood Turner Co., Inc., Inter-Con-Tex Import Co., Burlington Ribbon Mills, Dixie Bobbin Co.	E-432
Hotwatt, Inc. Represented by W. K. Hile Co., Inc.	E-426
Howard Brothers Mfg. Co.	J-252
Howe Scale Co., The	F-448
Hubinger Co. Represented by Ira L. Griffin Sons, Inc.	B-501
Hunter Controls Inc.	D-465
Hurley & Harrison, Inc. Representing N. H. Parks Co., M. B. Products	J-227
Hyatt Bearings Div., General Motors	A-104
Hyster Co. Represented by Wrenn Bros.	D-480
I	
I.B.M. Corp.	D-460
Ideal Industries, Inc.	J-239
ILG Electric Ventilating Co. Represented by Chet Adams	J-241
Instruments, Inc. Represented by W. K. Hile Co., Inc.	E-426
Inter-Con-Tex Import Co. Represented by Holt Associates	E-432
Industrial Coatings, Inc.	J-214
Industrial Dryer Corp.	D-466
International Correspondence Schools	K-336
J	
Jacobs, E. H.	E-422
Jacobs Brothers	K-334
Jamesbury Corp.	B-483
Jenkins Bros.	E-453
Jenkins Metal Shops Representing William Bal Co.	G-838
Johnson Corp.	E-437
Johnson & Son, Inc., S. C.	K-307
K	
Kanegafuchi Machine Co. Represented by Edward S. Rudnick, Reps.	L-905
Keever Starch Co.	E-407
Kenyon & Son, Inc., Wm.	B-508
Keystone Lubricating Co.	E-402
Kidde Textile Machinery Corp.	D-478
Kluttz Rings, Inc.	A-110-A
L	
Lambeth Rope Corp.	J-222
Lane Bros., Inc., W. T. Represented by Greenville Textile Supply Co.	J-212
LaSalle Steel Co.	K-352
League Mfg. Co., G. F. Representing Cronland Warp Roll Co., Inc., Great American Industries	A-106-A
Leesona Corp.	I-810
Lenkotex Co.	A-120
Lincoln Engineering Co.	B-510
Lindley & Co., Inc. Represented by Foster Machine Co.	I-827
Livermore Corp., H. F.	A-108-A
Livingston & Haven, Inc. Representing Browne & Sharpe Mfg. Co.; Oil-Dyne, Inc.; Skinner Valve Div.	J-264
Livingstone Coating Corp.	J-201
Lockwood Greene Engineers, Inc.	J-220-A
Lowell Industries, Inc.	A-108-A
M	
M. B. Products Represented by Hurley B. Harrison, Inc.	J-227
Machinecraft, Inc. Represented by Cotton-McCauley & Co., Inc.	I-828
Machinery Electrification, Inc. Represented by Electro-Motion Corp.	B-506
Magnesium Co. of America Represented by Engineering Sales Co.	A-115-A
Maier, C. Eugen Represented by Watson & Desmond	A-128
Manton-Gaulin Mfg. Co., Inc.	I-818
Marsh Stencil Machine Co.	K-319
Marshall & Williams	J-249
Master Electric Co. Represented by Reliance Electric Co.	A-144
Mathis Water Treating Co.	K-310
Matrix Controls Co., Inc.	L-901
McDonough Power Equipment, Inc.	J-246
Meadows Mfg. Co.	I-812
Mechanical Felt & Textiles	J-273
Merrow Machine Co. Represented by Hollister-Moreland Co., Inc.	J-234
Metlon Corp.	J-271
Mettler Instrument Corp.	K-302
Micro-Switch Represented by Carolina Radio Supply Co., Inc.	K-328
Minnesota Mining & Mfg. Co.	G-845
Minnesota Paints, Inc.	K-326
Mitcham, Harley & Co.	K-329
Mitsui & Co. Represented by Edward S. Rudnick, Reps.	L-905
Mitchell-Bissell Co.	E-430
Modern Textiles Magazine	A-121
Moffatt Bearings Co.	J-265
Monroe Calculating Machine Co.	K-343
Morton Salt Co.	B-509
Moto-Truc Co. Represented by Baker Mfg. Co.	H-834
Mount Hope Machinery Co.	A-114
Murphy Fur Co., T. J. Represented by Batson Mfg. Co.	J-223
N	
National Cash Register Co.	K-365
National Plastics, Inc. Represented by Yeoman's Textile Machinery	E-449
National Ring Traveler Co.	J-213
National Starch & Chemical Co.	E-455
National Vulcanized Fibre Co., Lestershire Spool & Mfg. Co. Div. Represented by Greenville Textile Supply Co.	H-832
National Vulcanized Fibre Co., Marketing Dept.	J-212
New Departure Div., General Motors	A-146
New England Paper Tube Co. Represented by Watson & Desmond	A-128
New York & New Jersey Lubricant Co.	A-109
Nilfisk American, Inc.	K-320
Nippon Spindle Mfg. Co. Ltd. Represented by Edward S. Rudnick, Reps.	L-905
Noble Co., Roy Represented by Batson Mfg. Co.	J-223
Norris Brothers Represented by Holt Associates, Inc.	E-432
Nutting Truck & Caster Co. Represented by Engineering Sales Co.	A-115-B
O	
O-M Spinning Machine Mfg. Co. Represented by Edward S. Rudnick, Reps.	L-905
Oil-Dyne, Inc. Represented by Livingston & Haven, Inc.	J-264
Ohmite Mfg. Co. Represented by Carolina Radio Supply Co.	K-328
Olney Paint Co.	E-446
Ore-Lube Co. Represented by General Enterprises, Inc.	K-341
P	
Paddock Co., J. C.	E-442

. . . *Turn to page* 147

THE CREEL

LINT PNEUMAFIL FREE

PATENT NO'S 2,945,639 D 179,239

DESIGNED FOR TODAY'S (AND TOMORROW'S) LARGER ROVING PACKAGES

TODAY'S trend toward larger roving packages is causing our customers to appreciate the superior features and advantages of rigid, non-vibrating LINT-FREE CREELS. Vibration not only produces break backs, but a far worse condition known as *stretched roving*. This is essentially *"uncontrolled drafting."*

ORDINARY CREEL

LINT-FREE CREEL

LINT-FREE CREELS guard against uncontrolled drafting by providing the maximum strength and stability possible in a creel. They are made with these components to assure complete rigidity and vibrationless operation:

- STRONG EXTRUDED ALUMINUM SPANS
- CAST IRON CROSS SUPPORTS
- COLD ROLLED STEEL POSTS
- STAINLESS STEEL ROVING RODS

And — LINT-FREE CREELS can be quickly changed from 4/0 4/2 6/0 6/2 8/0, can be easily installed by yourself, and feature the *original* air-foil design. Remember, quality spinning starts with LINT-FREE CREELS—made *only* by PNEUMAFIL.

Protect your investment! Buy only PNEUMAFIL LINT-FREE CREELS – designed to accommodate any bobbin size today or in the future.

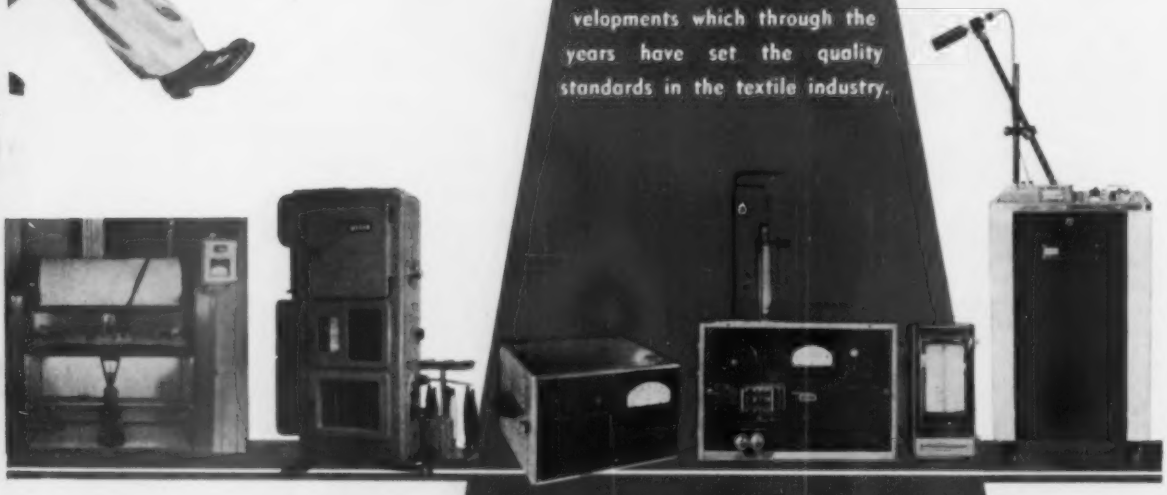
We welcome the opportunity to discuss your creel needs.

© Pneumafil Corp. 1960

PNEUMAFIL CORPORATION • CHARLOTTE 8, N. C.

THE RED CARPET

We have a royal red carpet welcome ready for you in Booth 469 at the Southern Textile Exposition. New products such as SPECTOMATIC (shown in action for the first time) will join the many other outstanding USTER developments which through the years have set the quality standards in the textile industry.



Continuous quality control has become an essential part of the daily manufacturing process in today's modern textile mill. Because of this, most mills now maintain complete testing laboratories. They consider USTER equipment an integral part of their day to day operation, a fact borne out by their quality production.

© USTER CORP. 1960

IS OUT AT THE USTER BOOTH 469

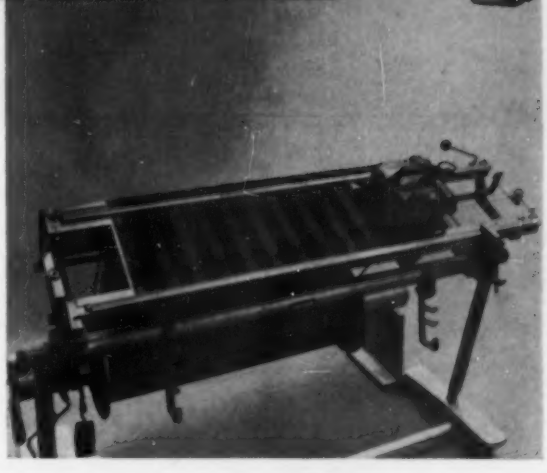
See the first public showing in operation—on two winders!

SPECTOMATIC

- Can be precisely controlled to remove *only* the slubs *you* want removed.
- Analyzes whether a knot would be worse than a defect and acts accordingly.
- Removes up to 65% more slubs than existing mechanical slub catchers.
- Mounts directly on winder—is not affected by vibration.
- Operates on low voltage — not affected by power fluctuations.
- Completely transistorized — no warm-up required.

USTER *Matic* *should definitely be on your "must see" list!*

- Ties 550 to 650 knots per minute.
- Actually cuts warp tying time in half.
- USTERmatic is flexible, it ties from a flat sheet, lease or any combination.
- A specially designed warp tying frame drastically cuts preparation time.
- Automatically stops on double ends or flats.



Be sure to have your company personnel visit Booth 469 and report on the latest USTER equipment. A complete staff of technicians and engineers will be on hand to discuss recent advances in manufacturing standards brought about by USTER products — made *better* to serve you *better.*

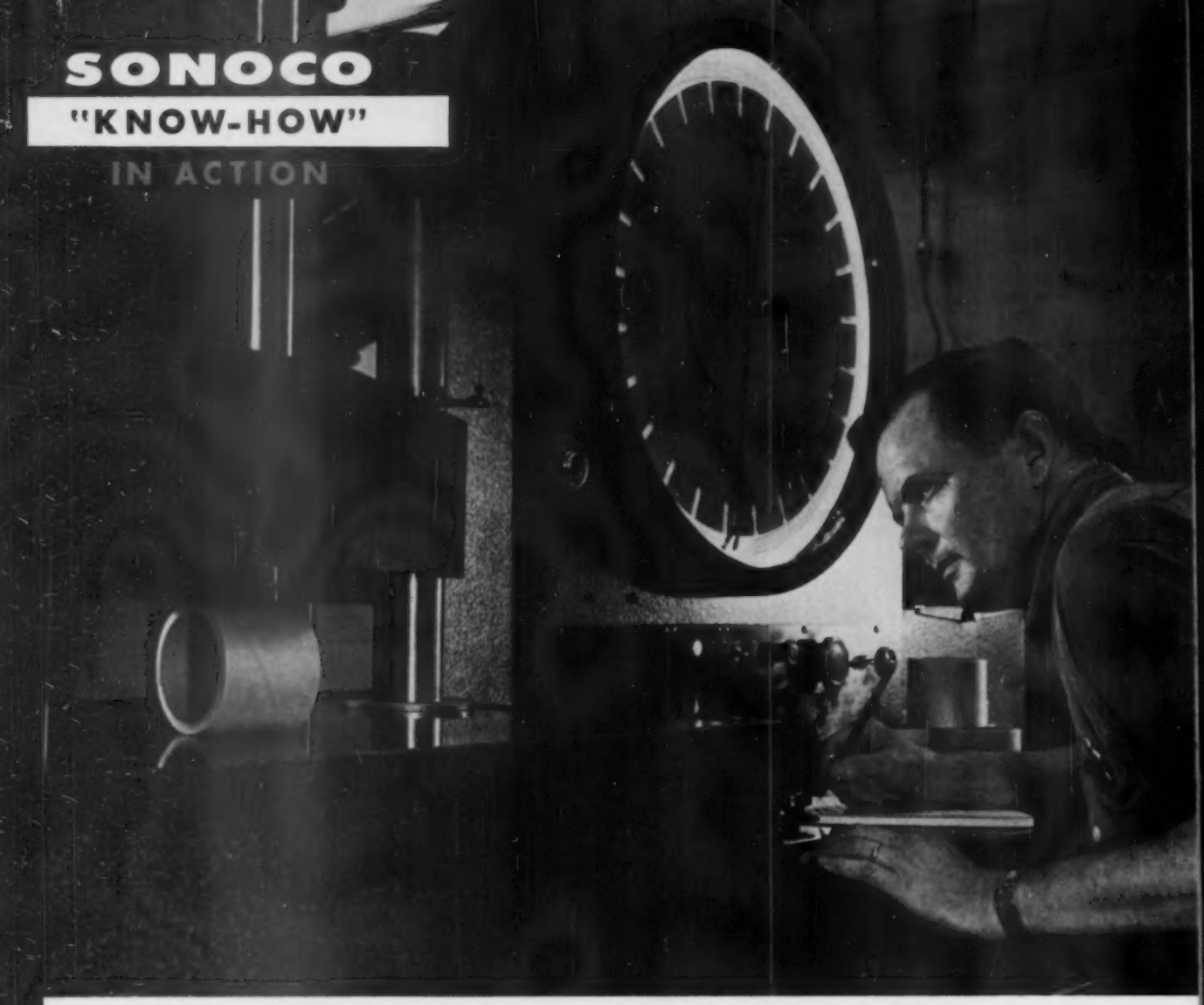
USTER CORPORATION • CHARLOTTE 8, NORTH CAROLINA

SALES OFFICES: Charlotte, N. C. Canadian Sales Offices: Hugh Williams & Co., 27 Wellington St. East, Toronto 1, Ontario

SONOCO

"KNOW-HOW"

IN ACTION



Tube testing for crush strength at Sonoco

There's no guesswork with Sonoco tube quality!

Sonoco produces tubes and cores for the textile industry by spiral, parallel and convolute processes. Sonoco tubes are designed and manufactured to meet exacting customer needs . . . *no more, no less.* This saves Sonoco customers money because they can secure the *right tube* for each processing operation. There is no guesswork in tube quality when you buy from Sonoco.

Sonoco tubes range from standard types to those which possess *startling* crush, break and torque strength. In the wide scope of Sonoco experience is the "know-how" to produce the tube you want and need.

Sonoco tubes are typical of the dependable products manufactured by a fully integrated company with 60 years' experience in creating and producing all types of paper textile carriers. *Only Sonoco,* in its field, provides the necessary knowledge, skill and capacities to meet the ever-changing techniques of the textile industry. *Let Sonoco experience help you!*

See Sonoco!
Southern Textile Exposition
Greenville, S. C.
October 3-7, 1960
Booth 244

SONOCO
Products for Textiles

sonoco

SONOCO PRODUCTS COMPANY, HARTSVILLE, SOUTH CAROLINA • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Holyoke, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Calif. • Fremont, Calif. • Atlanta, Ga. • Richmond, Va. • Brantford, Ontario • Granby, Quebec • Mexico City

CIRCLE 146 ON READER SERVICE CARD

1292

EXHIBITOR	BOOTH
Parks-Cramer Co.	B-502
Parks Co., M. H.	J-227
Represented by Hurley & Harrison, Inc.	
Patterson-Kelley Co., Inc.	K-360
Payson-Harris-Reed Corp.	G-838
Penick & Ford, Ltd., Inc.	E-427
Pennell Co., Geo. H.	A-110-B
Representing Wheel Trueing Co., Ranset Fastening System	
Perfecting Service Co.	E-409
Permacel	K-335
Perolin Co., Inc.	K-361
Picanol, S. A. Metiers Automatiques	G-839
Piedmont Machine Shop, Inc.	K-322
Pioneer Heddle and Reed Co.	J-212
Represented by Greenville Textile Supply Co.	
Pneumafil Corp.	A-118
Potter & Brunfield Relay Co.	K-328
Represented by Carolina Radio Supply Co., Inc.	
Poe Hardware & Supply Co.	B-516
Representing Minnesota Mining & Mfg. Co.; Rockwell Mfg. Co., Delta Power Tool Div.	
Power Brushes, Inc.	K-324
Powers Regulator Co.	K-355
Precision Gear Div., Perfecting Service	E-409
Proctor & Schwartz, Inc.	B-503
Progressive Engineering, Inc.	A-128, L-906
Represented by Watson & Desmond	
Pure Oil Co.	A-105
Puritan Chemical Co.	E-418

R

Radio Corp. of America	K-347
Ramset Fastening System	A-110-B
Represented by Geo. H. Pennell Co.	
Raymond Corp.	D-458
Reeves Pulley Co.	A-144, L-903
Represented by Reliance Electric Co.	
Reiners & Fuerst, M.	A-128
Represented by Watson & Desmond	
Reliance Electric & Eng. Co.	A-144, L-903
Representing Master Electric Co., Reeves Pulley Co.	
Rhoads & Sons, J. E.	D-471
Rice Dobby Chain Co.	E-432
Presented by Holt Associates, Inc.	
Ridge Tool Co.	E-435
Rieter Co. Ltd.	I-820
Represented by American Rieter Co.	
Roberts Co.	I-808
Rock, Edward B.	L-908
Rockwell Mfg. Co., Delta Power Tool Div.	B-516
Represented by Poe Hardware & Supply Co.	
Rose & Co., E. F.	J-207
Ross-Meehan Foundries	K-303
Rotherm Engineering Co., Inc.	J-215
Roy & Son Co., B. S.	J-206
Rudnick Representatives, Edward S.	L-905
Representing Mitsui & Co., O-M Spinning Kanegafuchi Machine Co., Nippon Spindle Mfg. Co. Ltd.	
Russell Mfg. Co.	J-217
Represented by Carolina Belting Co.	

S

Saco-Lowell Shops, Replacement Parts Div.	H-835-A
Schachner Leather & Belting Co.	J-228
Representing Charles Walker & Co., A. W. Chesterton Co., U. S. Rubber Co.	
Scharer Textile Machine Works	E-449
Represented by Yeomans Textile Machinery Co.	
Schlafhorst & Co., W.	E-482
Represented by Terrell Machine Co.	
Schmidt Mfg. Co. of S. C.	B-456
Scott Testers, Inc.	E-401
Selig Co.	J-232
Seydel-Woolley & Co.	J-238
Shell Oil Co.	A-103
Sherrill Mfg. Co., Inc.	J-270, L-909
Signode Steel Strapping Co.	H-835-B
Sirrine Co., J. E.	J-204
Skinner Valve Div.	J-264
Represented by Livingston & Haven	
Slip-Not Belting Corp.	
Smith Enterprises, Inc.	K-318
Snowiss Fur Co., B.	E-432
Represented by Holt Associates, Inc.	
M. R. Snyder	L-903
Representing Stearns Electric Corp., Stearns Magnetic Corp., Durant Mfg. Co., Globe Gear Co., Hilliard Corp.	
Sonoco Products Co.	J-244
Southeastern Loom & Machine Works, Div. Abney Mills	A-130
Southeastern Safety Appliances, Inc.	K-301
Southern Machinery Co.	B-515
Southern Rubber Co.	J-274
Southern States Equipment Corp.	J-266
Southern Textile News	K-313
Spaulding Fibre Co.	J-202
Square D Company	G-847
Staley Mfg. Co., A. E.	E-412
Standard Conveyor Co.	A-115-B
Represented by Engineering Sales Co.	
Stanley Works, Magic Door Div.	D-467
Represented by Hatcher Sales Co.	
Stanley Works, Steel Strapping Div.	E-457
Stearns Electric Corp.	L-903
Represented by M. R. Snyder Co.	
Stearns Magnetic Corp.	L-903
Represented by M. R. Snyder Co.	
Steel Heddle Mfg. Co.	A-137
Stein, Hall & Co., Inc.	E-425
Sterling Eng. & Mfg. Co.	J-216
Stewart-Warner Corp., Alemite Mktg. Div.	I-803
Strandberg Engineering Laboratories, Inc.	B-504
Sturdi-Bilt Materials Handling, Div. Union Asbestos & Rubber Co.	D-480
Represented by Wrenn Bros.	
Superior Bolster Co.	B-505
Sylvania Lighting Products	E-414

T

TAKK Corp.	K-337
Taylor Instrument Cos.	E-450
Terrell Machine Co.	C-482
Representing W. Schlafhorst & Co.	
Texaco, Inc.	E-444
Texize Chemicals, Inc.	E-451
Texpak Plastics, Inc.	K-311
Represented by Dockery Mfg. Co.	
Textile Bulletin	J-203
Textile Industries	E-408
Textile Shops	B-501
Represented by Ira L. Griffin Sons, Inc.	
Textile World	J-224
Theiler Corp., H. J.	I-822
Toledo Pipe Threading Machine Co.	A-144
Toledo Scale	E-415
Ton-Tex Corp.	E-431
Towmotor Corp.	G-849
Triplett Electrical Instrument Co.	K-328
Represented by Carolina Radio Supply Co.	
Trumeter Co.	J-245

U

Union Bag-Camp Paper Corp.	K-350
Union Steel Products Co.	D-480
Represented by Wrenn Bros.	
United States Rubber Co., Mech. Gds. Div.	K-317
U. S. Ring Traveler Co.	I-801
Uster Corp.	D-469

V

Valentine, Ira M.	E-429
Representing American Stock Gear Div., George P. Dorris Co.	
Veeder-Root, Inc.	A-107

W

WAK Industries	J-231
Walker Co., Charles	J-228
Represented by Schachner Leather & Belting Co.	
Warren Engineering Co., Div. Warren Automatic Controls Corp.	K-323

... Turn the page

EXHIBITOR	BOOTH
Watson & Desmond Representing Watson-Williams; C. Eugen Maier; New England Paper Tube Co.; Progressive Engineering, Inc.; M. Reiner & Fuerst; Zinser Textilmaschinen, Gmbh.	A-128
Watson-Williams Mfg. Co. Represented by Watson & Desmond	A-128
West Chemical Products, Inc.	K-340
Westinghouse Electric Corp.	E-423
Westinghouse Lamp Div.	E-406
West Point Foundry & Machine Co.	I-804
Wheel Trueing Tool Co. Represented by Geo. H. Pennell Co.	A-110-B
Whitehead Die Casting Co. Represented by Cotton-McCauley & Co., Inc.	I-828
Whitin Machine Works, Repair Sls. Div.	I-819
Whitinsville Spinning Ring Co.	J-209
Willcox & Gibbs Sewing Machine Co.	J-272
Winsmith, Inc. Represented by M. R. Snyder Co.	L-903
Wood's Sons Co., T. B.	J-242-B
Wrenn Bros. Representing Colson Corp., Hyster Co., Sturdi-Bilt Materials Handling, Union Steel Products Co.	D-480
Y	
Yale & Towne Mfg. Co.	D-470
Yeomans Textile Machinery Co. Representing Scharer Textile Machine Works, Clark-Cutler-McDermott Co., National Plastics, Inc.	F-449
Young Machine Co., F. A.	J-257
Z	
Zinser, Textilmaschinen Gmbh. Represented by Watson & Desmond	A-128

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Dyeing, finishing, printing, and cloth-room equipment and supplies 150
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Fluid handling, pumps, traps, piping, valves, rotary joints, unions 152
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AIR CONDITIONING; AIR FILTERING, HEATING, COOLING, HUMIDIFYING AND VENTILATING

Aldrich Machine Works J-269
Air filter

Allis-Chalmers Mfg. Co. A-142
Close-coupled pump for conditioned air

American Air Filter Co., Inc. E-434
Automatic lint filter; automatic, self-cleaning electronic precipitator

American Moistening Co. G-840
Lint collector*, water-pressure and air-pressure type atomizer, modulating interrupter for atomizer systems

Armstrong Machine Works E-439
Steam-type unit humidifiers

Bahnson Co. H-830
Unit air-conditioning system

ILG Electric Ventilating Co. J-241
Power roof ventilator*

Johnson Corp. E-437
Air separators, aftercoolers

Mathis Water Treating Co. K-310
Water-testing equipment, corrosion meters, chemicals and laboratory service for treatment of air conditioning and humidification systems

Parks-Cramer Co. B-502
Climate systems for humidification and cooling

Rotherm Engineering Co., Inc. J-215
Humidifiers*

EQUIPMENT & CEILING CLEANERS

American Moistening Co. C-840
Ceiling cleaner*, roving-frame cleaner*

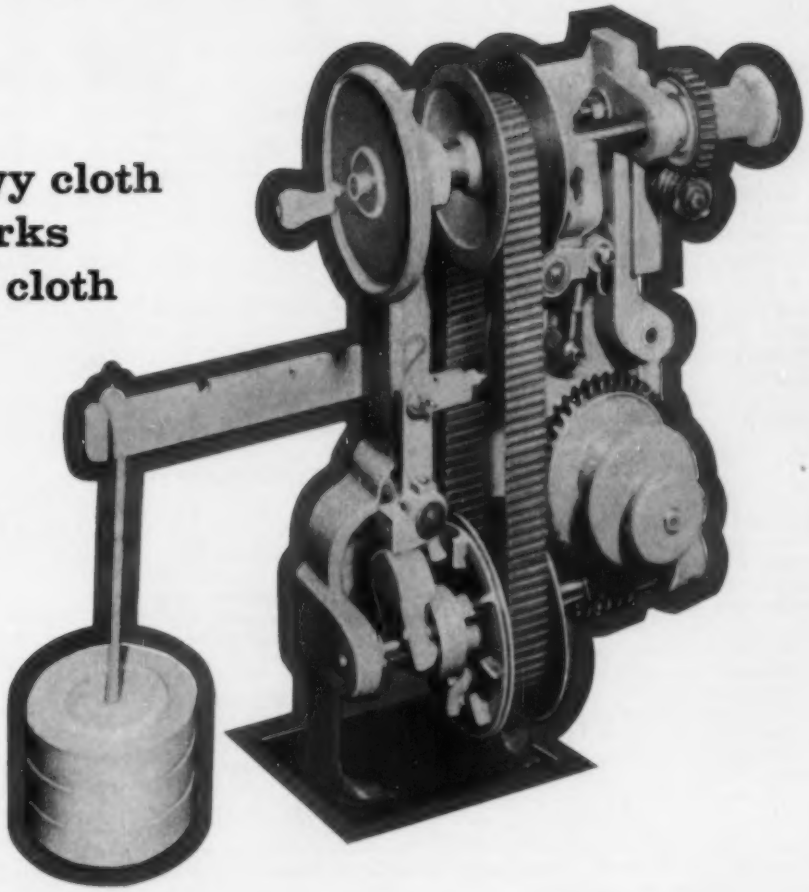
American MonoRail Co. A-111
Automatic cleaning and vacuum equipment

Bahnson Co. H-830
Cross-jet traveling spinning frame and

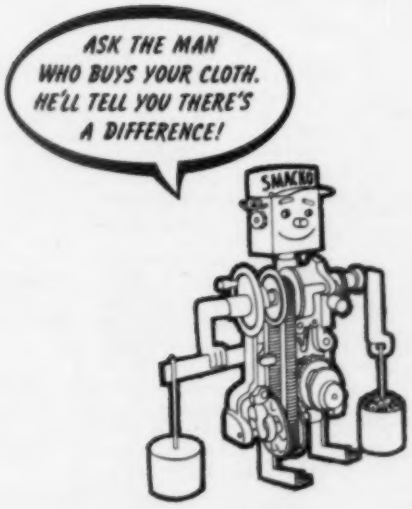
. . . *Turn to page* 150

* New since Greenville Show, 1958

Eliminate wavy cloth
reduce set marks
weave perfect cloth
with the...



Hunt Let-Off®



Now! Weave more premium quality cloth by equipping your looms with the Hunt Let-Off. This positive and automatic Let-Off maintains a constant tension from full beam to empty. It practically eliminates wavy cloth.

Mill experience has proved that the Hunt substantially decreases seconds, reduces set marks, decreases labor costs and loom part replacement costs.

Ask your customer about the better quality cloth from looms equipped with the Hunt Let-Off.

The Hunt is available for all models of looms in place, should be specified when ordering new Crompton and Knowles and Draper looms.

WRITE, WIRE OR PHONE

SOMACO

SOUTHERN MACHINERY COMPANY

Box 3217-Station A, 5806 Augusta Road, Greenville, S. C., CRestwood 7-2116

CIRCLE 149 ON READER SERVICE CARD

PRODUCT — **BOOTH**

ceiling cleaner, stationary ceiling cleaner*

Parks-Cramer B-502
Complete line of traveling-cleaner equipment

Stanley Works, The, Magic Door Div. D-467
Automatic door controls

BUILDING-CONSTRUCTION EQUIPMENT AND MAINTENANCE, FIRE PROTECTION, SAFETY AND YARN EQUIPMENT

Boston Woven Hose & Rubber Co. A-102
Fire Hose

Clark Door Co. K-338
Air-operated, double horizontal sliding door*

Minnesota Mining & Mfg. Co. G-845
Nonslip surfacing

Permacel K-335
Epoxy coating*, vinyl tapes

Southeastern Safety Appliances, Inc. K-301
Dry-chemical and carbon-dioxide fire extinguishers, oxygen resuscitation equipment, linemen's and industrial safety belts, rubber gloves, air-sampling equipment, first-aid supplies and miscellaneous safety equipment

Stanley Works D-467
Door controls

CARDING, OPENING, BLENDING, PICKING, DRAWING, ROVING, AND COMBING EQUIPMENT

Abington Textile Machinery Works H-829
Vacuum stripping system for revolving flat-top cards

Abney Mills, Southeastern Loom & Machine Works Div. A-130
Card and drawing coilers

Adams, Inc. E-447
Stop motion for roving frames

Aldrich Machine Works J-269
Finisher section of a single-process picker, new blending feeder, pepper-shaker opener, feed table

American Rieter Co., Inc. I-820
High-speed draw frame*, fiber-mixing machine*, high-speed slubber*

Ashworth Bros., Inc. A-122
Card clothing for all systems

Batson Co., Louis B. J-223
Card coilers, Teflon-coated sliver guides, drawing-frame change-over

Booth Co., Benjamin J-227
Card clothing

Cen-Tennial Cotton Gin Co. I-824
Opener-cleaner, separator-cleaner

Davis & Furber Machine Co. D-476
Card clothing

Golden's Foundry & Machine Co., Inc. J-219
Ball-bearing conversion units for opening and carding machines*

Graton & Knight Co. B-507
Leather condenser aprons and tapes

Howe Scale Co. E-448
Lap scale with lap pan

Hunter Inc., James D-465
Bale blender*, cotton cleaner*, self-contained condenser*, automatic weighing belt blending conveyor*

Ideal Industries, Inc. J-239
Two-delivery, super-speed drawing frame

Maier, C. Eugen A-128
Prima flyers

McDonough Power Equipment, Inc. J-246
18- and 20-in coilers*

Mechanical Felt & Textiles Co. J-273
Card clothing

Medley Mfg. Co. L-907
High-speed drawing frame, high-speed wool comb

Perfecting Service Co., Precision Gear Div. E-409
Modernization units for opening through spinning*, vari-pitch blender*

Piedmont Machine Shop, Inc. K-322
Steel rolls and repairs services for pickers, waste machines, cards, drawing combers, lap machines, pin drafts, and roving frames; picker lap pins*; drawing spoons*

Pneumafil Corp. A-118
Roving-frame stop motions

Proctor & Schwartz, Inc. B-503
Blending feed*

Progressive Engineering, Inc. A-128
Antifriction top rolls, cradle for spinning and roving drafting systems

E. F. Rose & Co. J-207
Wooden parts for roving and carding*

Saco-Lowell Shops, Replacement Parts Div. H-835
Double doffer condenser*, change-over display*

Southern States Equipment Corp. J-266
Complete coilers, coiler conversions

Spaulding Fibre Co., Inc. J-202
Lap rolls

Winslow, Inc. A-128
Roving-bobbin holders

Zinser Textilmaschinen, Gmbh. A-128
Roller-bearing spindles

CHEMICALS AND DYESTUFFS, AGENTS, FIBER LUBRICANTS

Georgia-Carolina Oil Co. A-113
Lubricants

Morton Salt Co. B-509
Various grades of salt

National Starch and Chemical Corp. E-455
Resin*

Penick & Ford Ltd., Inc. E-427
Starch and starch derivatives for finishing

Seydel-Woolley Co. J-238
Wet-processing auxiliaries

Texaco, Inc. E-444
Fiber lubricants

Texize Chemicals, Inc. E-451
Softeners, binders, waxes, penetrants, plasticizer, wetting agents, surfactants, tints

CLEANING EQUIPMENT AND SUPPLIES

Bahnson Co. H-830
Vacuum floor sweeper

Center Chemical Co. K-304
Special floor sealers and finishes, specialized cleaners, strippers, loom cleaner

Finnell System, Inc. A-110
Polishing-scrubbing machines

Gilman Paint & Varnish Co. E-446
Varnishes, lacquers, floor sealers

Hill Mfg. Co. K-358
Floor finish, disinfectant, all-purpose cleaner, loom cleaner

Johnson & Son, Inc., S. C. K-307
Special finish for heavy-traffic floors*, new floor cleaner*, new finish*

Nilfisk of America, Inc. K-320
Industrial suction cleaners

Olney Paint Company E-446
Varnishes, lacquers, floor sealers

Puritan Chemical Co. E-418
Floor finishes, industrial detergents

Selig Co. J-232
Floor-maintenance materials

Texize Chemicals, Inc. E-451
Industrial-maintenance products

West Chemical Products, Inc. J-340
Floor cleaners, waxes, finishes, antiseptic floor treatment, wet and dry vacuums

FIBERS AND YARNS

Allied Chemical Corp. J-262
Applications of nylon 6 tire-cord yarn

Metlon Corp. J-271
Nontarnishing metallic yarn

DYEING, FINISHING, PRINTING, AND CLOTH-ROOM EQUIPMENT AND SUPPLIES

Birch Brothers, Inc. J-248
Finishing machinery, cloth-handling equipment, sewing machines

Chandler Machine Co. K-359
Sample cutting-pinking machines (hand and power), pleating machine

Curtis & Marble Machine Co. J-235
Shears*, cloth folder, and sewing machine for reinforced seams

Davis & Furber Machine Co. D-476
Napper clothing

Dinsmore Mfg. Co. J-234
Sewing machine

Dixon Crucible Co., Joseph K-332
Cloth-making pencils*, mill crayons

Gaston County Dyeing Machine Co. I-802
Wet-dyeing and finishing equipment

Industrial Dryer Corp. D-466
Automatic conditioner

G. F. League Mfg. Co. A-106
New-type dye tube winder spud

Marshall & Williams J-249
Tenter*, repair parts, edge-guide controls, tenter clips

Mechanical Felt & Textiles Co. J-273
Marking devices

Morton Salt Co. B-509
Polyester brinemaker with all plastic-constructed fluitron*

Mt. Hope Machinery Co. A-114
Skew liner and other weft-straightening equipment

. . . *Turn to page* 152

* New since Greenville Show, 1958

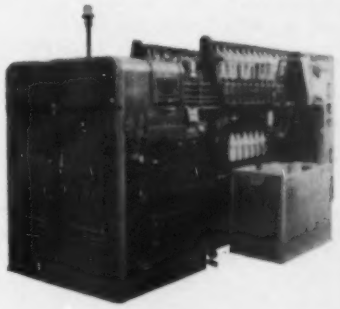
AUTOMATION!

See these Machines in Action
At The
Southern Textile Exposition
Greenville, October 3-7, 1960
Booth No. 905
(Annex #9, "across the street.")

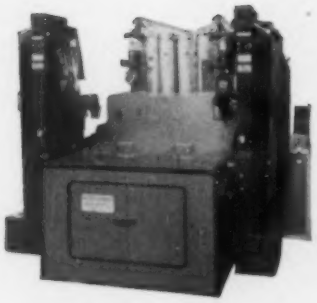
DRAWING THROUGH SPINNING

THE OM-S SPINNING FRAME.....*Eliminates Roving Completely*

This latest model costs less than a conventional frame, but produces a more even and stronger yarn *directly from drawing sliver*. It accommodates cotton and other staples up to 3" in length, spins them into any yarn count from 5's to 120's. Notable innovations include automatic spindle speed regulation; automatic stop and rail lowering motion (with doffing pilot lamp); and increased can and bobbin capacity. More than 1,000,000 spindles in use, including more than 10 installations in the U. S. A. Installed and serviced by reputable erectors in North America.



Head-End of OM-S Spinning Frame with Auto-Doffer in action.



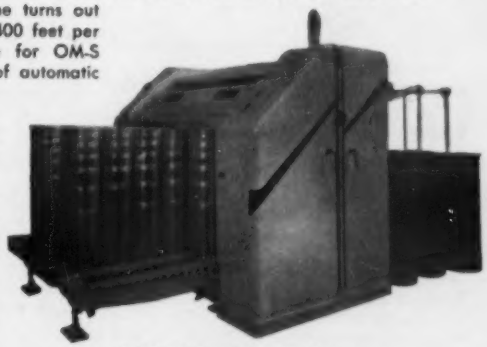
Permanently Mounted Auto-Doffer, with Dual Heads. (Portable models also available.)

THE AUTO-DOFFER.....*Eliminates Hand-Doffing Completely*

Here, for the first time in this country, is a completely perfected doffing device that totally eliminates the expensive and tedious hand operation of doffing full bobbins and replacing empty ones on spinning or twister frames. Equipped with dual doffing head, travelling along both sides simultaneously up to 25 feet per minute, it can completely doff a full-length frame in less than two minutes! Efficiency, in terms of ends down after doffing, increased as much as 50%.

THE O-M HIGH SPEED DRAWING FRAME...*Accelerates Sliver Production*

New to North America, this machine turns out superior sliver at speeds exceeding 400 feet per minute. As a packaging machine for OM-S spinning creel cans, a new system of automatic can doffing allows for any cans to be handled without human attention. Empty cans are fed into each delivery and full cans are moved away on separate conveyors. Other new features include an improved drafting system, revolutionary suction clearers on all top and bottom rollers, power driven sliver lifting creels, 3 sets of stop motions with separate pilot lamps to pinpoint source of stoppage, and improved systems of sliver cutting and coiling.



O-M High Speed Drawing Frame with New Automatic Can Changing

Ever-Even Control Box with Recorder. (Mounted on Conventional Drawing Frame)

THE EVER-EVEN.....*Controls Sliver Variable Continuously*

Also new to North America, this automatic feedback control, for drawing frames and pin drafters, continuously measures and integrates the sliver from each delivery and feeds back the results to instantaneously correct the draft in case of unevenness. Evenness measurements, machine stops, and their duration are recorded on chart, so that the quality, efficiency, and production of each machine can be readily determined at any time. Short term variation is substantially reduced and long term variation is practically eliminated, with no gear changing.

In addition we offer a full line of auxiliary spinning equipment and supplies.

Address All Inquiries To: **EDWARD S. RUDNICK, REPRESENTATIVES**
OLYMPIA BLDG., NEW BEDFORD, MASS.

Representing in North America: Mitsui & Co., Ltd., (Exporters-Importers)
Tokyo, New York, etc.
O-M Spinning Machine Manufacturing Co., Ltd.
Osaka, Japan

PRODUCT — **BOOTH**

Permacel K-335
Double-faced paper tape, splicing tapes
Textile Shops B-501
Theiler Corp., H. J. I-822
Four-bowl laboratory padder
Trumeter Company J-229
Inspection and rolling machine*
West Point Foundry & Machine Co. I-804
Corduroy-cutting machine*, drying range and padder*
Willcox & Gibbs Sewing Machine Co. L-902
Sewing machine

ELECTRICAL EQUIPMENT, PARTS AND SUPPLIES, MOTORS, CONTROLS, SWITCHGEARS

Allen-Bradley Co. E-413
Manual and magnetic starters for voltage applications, pilot devices, accessories
Allis Co., Louis B-511
Textile motor, compact pancake AC motor*, inverted AC motor*, transistor regulator panel*
Allis-Chalmers Mfg. Co. A-142
Textile motors*, lint-tight motor control*
American Pamcor, Inc. A-125
Electrical terminals and connectors, multiple-wire splices
Eaton Mfg. Co., Dynamatic Div. B-506
Eddy-current variable-speed drive, electric brakes and clutch
Federal Pacific Electric Co. A-108
Safety switch with rotary-handle disconnect
Permacel K-335
Epoxy adhesives*
Reliance Electric & Engineering Co. A-144
Electric motors, parts, controls
Square D Co. G-847
NEMA 12 type combination starter*, NEMA 4 stainless-steel enclosed combination starter*, switchgear*, motor starter*
Sylvania Electric Products, Inc. E-414
Industrial electronic tubes
Westinghouse Corp. E-423
Motors and controls

FLUID HANDLING, PUMPS, TRAPS, PIPING, VALVES, ROTARY JOINTS, UNIONS

Abney Mills, Southeastern Loom & Machine Works Div. A-130
Centrifugal and gear size pumps
Armstrong Machine Works E-439
Syphon scoop for dry-can drainage, inverted-bucket steam trap for condensate draining
Band-It Co. K-321
Industrial pressure clamps, hose nipples and hose clamps, quick-disconnect couplings
Batson Co., Louis B. J-223
Size pumps
Boston Woven Hose & Rubber Co. A-102
Industrial hose

* New since Greenville Show, 1958

PRODUCT — **BOOTH**

Creamery Package Mfg. Co. A-127
Stainless rotary slasher pump
Dart Union Co. D-459
Fittings—pipe, malleable iron; unions—pipe, malleable iron
Fairbanks Co. D-459
Unions, valves
Jamesbury Corp. B-483
Ball valves and operators
Jenkins Bros. E-453
Bronze, iron, cast steel, and stainless-steel valves
Johnson Corp. E-437
Rotary pressure joints, syphon elbows, valves
M. B. Products J-227
Pressure regulators
Mathis Water Treating Co. K-310
Chemical feed pumps
Perfecting Service Co. E-409
Rotary union*, steam trap
Powers Regulator Co. K-355
Control valve*
Rotherm Engineering Co., Inc. J-215
Revolving joints, expansion joints
Warren Engineering Co., Div. of Warren Automatic Controls Corp. A-323
Pressure-reducing valves, diaphragm-control valves, temperature-control valves*, blow-through valves
West Point Foundry & Machine Co. I-804
Size pump*

INSTRUMENTS AND CONTROLS—MEASURING, COUNTING, METERING, WEIGHING AND TESTING, RECORDING

Booth Co., Benjamin D-464
Measuring device for determining eccentricity and for setting parallelism of various carding and grinding rolls*
Eaton Mfg. Co., Electro-Mechanical Engineering Co. B-506
Electrically controlled slubbing devices and controls
Exact Weight Scale Co. J-208
Scales used for Micronaire testing, etc.
Fenwal, Inc. E-426
Electric temperature controls*
Foster Machine Co. I-827
Yarn inspector*, tensions, gage
Foxboro Co. E-405
Dolly-washer control system, cycle-log controller, stretch control, relative-humidity transmitter
Henriksen A-128
Finishing and dyeing machinery
Howe Scale Co. E-448
Portable dial scale, counter scale with indicator, portable scale with indicator, dormant scale with Weightograph
Hunter Inc., James D-465
Psychrometer, electronic equipment
Instruments, Inc. E-426
Plastic-tank, float-control demonstrator stand; pressure switch; plastic transmitter; micro-valve demonstration panel
Leesona Corp. I-810
Portable uniformity meter
Mettler Instrument Corp. K-302
Completely new weighting instrument*, milligram balances, and dye-house scales
Powers Regulator Co. K-355
Temperature regulator*, time-cycle controller*
Radio Corp. of America K-347
Inspection detector for metal
Schmidt Mfg. Co. of S. C. E-456
Loom-testing and fabric-testing instruments
Scott Testers, Inc. E-401
Yarn reel, roving reel, umbrella reel, yarn-evenness controller, and twist tester
Strandberg Engineering Labs, Inc. B-504
Moisture monitors
TAKK Corp. K-337
Static-control equipment
Toenniessen A-128
Yarn-inspection machines
Toledo Scale Corp. E-415
Scales
Trumeter Co. J-229
Counting and measuring devices—mechanical and electrical
Uster Corp. D-469
Completely automatic slub catcher*, automatic integrators*, imperfection indicator, lap varimeter, automatic single-strand strength tester, cohesion tester, and tension recordograph
Veeder-Root, Inc. A-107
Complete line of counting devices for production and incentive systems
WAK Industries, Inc. J-231
Stretch indicator*, double-wheel yardage counter drives*, hank and pick counters, and magnetic and ratchet counters
Warren Engineering Co., Div. Warren Automatic Controls Corp. K-323
Pressure gages, thermometers, hydraulically operated controls, vacuum breakers, and regulators

LIGHTING EQUIPMENT

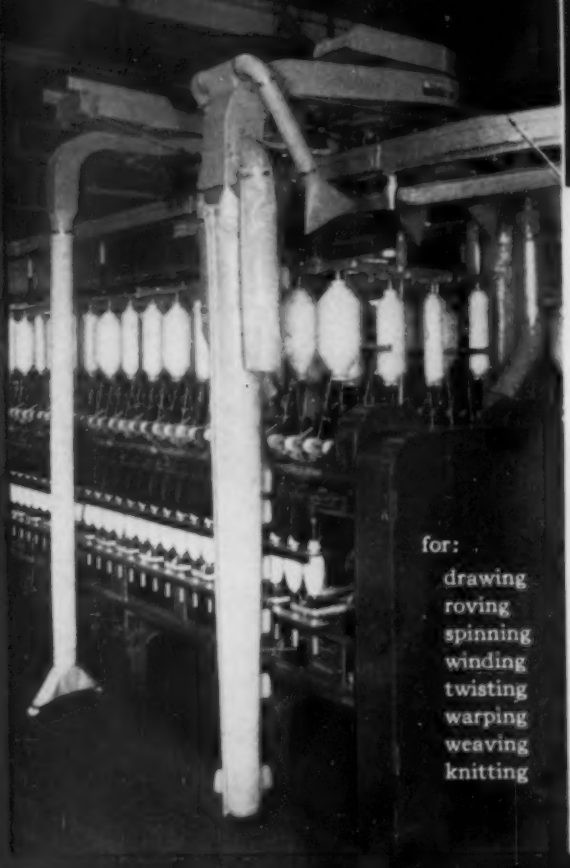
Sylvania Electric Products, Inc E-414
Incandescent, fluorescent, and quartz lamps and electroluminescent products
Westinghouse Lamp Div. E-406
New shape eye-saving lamps, super-high fluorescent lamps, extended service lamps

LUBRICANTS AND LUBRICATION EQUIPMENT

Bijur Lubricating Co. I-828
Automatic lubrication system as part of spinning frame
Farval Div., Eaton Mfg. Co. B-506
Centralized lubricating systems*
Keystone Lubricating Co. E-402
Light-cartridged multipurpose lubricant for antifriction plain bearings, loom-gear grease, high-temperature, relief-type fittings

... *Turn to page* 154

Parks-Cramer

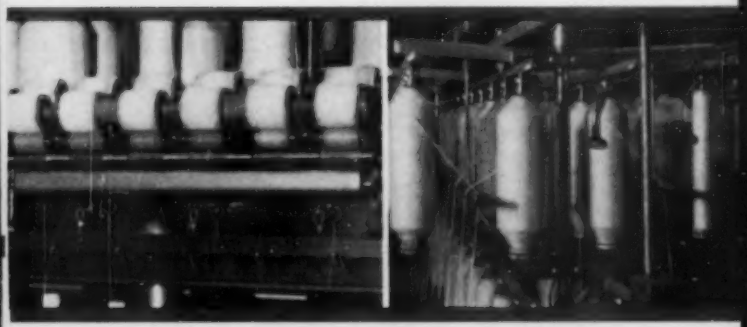


for:
drawing
roving
spinning
winding
twisting
warping
weaving
knitting

Traveling Cleaners

BLOWING UNITS
for machines and room surfaces

COOPERATING VACUUM UNITS
with automatic disposal



SpinSaVac
END COLLECTION

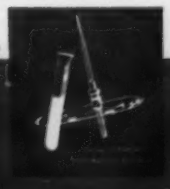
SpinSaCreel
ADJUSTABLE

Quality equipment
for new and existing frames

Certified Climate

Atomizer humidification
Automatic Airchangers and Central Station systems
with and without refrigeration

Greenville
Booth 502



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Parks-Cramer Company

FITCHBURG, MASS. CHARLOTTE, N.C. ATLANTA, GA.

PRODUCT — **BOOTH**

Lincoln Engineering Div., McNeil Machine & Engineering Co. B-510
Ring lubrication*, air-line lubricators*, air filters*, oilers*, automatic loom lubrication*

Moffatt Bearings Co. J-265
Bearing lubricants

New York & New Jersey Lubricants Co. A-109
Complete line of nonfluid lubrication oil

Ore-Lube Corp. K-341
Molybdenum disulphide greases and oils

Pure Oil Co. A-105
Complete line of textile lubricants

Alemite Div., Stewart-Warner Corp. I-803
Adjustable automatic lubrication system

Texaco, Inc. E-444
Greases, spindle oils

MANAGEMENT SERVICES, FACTORS, COLLEGES

International Correspondence Schools K-336
Texts

Lockwood Greene Engineers, Inc. J-221
Sirrine Co., J. E. Engineers, architects

Rotherm Engineering Co., Inc. J-215
Research, development, and testing

MATERIALS-HANDLING EQUIPMENT AND PARTS

American MonoRail Co. A-111
Chainless and cable-way conveyor system

American Pulley Co. D-479
Portable elevating trucks, hand trucks, hand-lift trucks

Ashworth Bros., Inc. A-122
Woven-wire conveyor belts

Baker Mfg. Co., Inc. H-834
Triple-lift mast for fork trucks*, narrow-aisle straddler truck,* other lift trucks

Bal Corp., Wm. H-838
Vulcanized-fibre tote-conveyor box,* trucks, waste hampers

Bassick Co. E-411
Textile casters*, floor position locks

Boston Woven Hose & Rubber Co. A-102
Flat belting for conveyors

Cable carriers, Inc. K-364
Overhead cable conveyor showing several systems

Carolina Fiberglass Products Co. K-335
Dye buckets*, batch containers,* doff boxes*, wet-goods boxes*, shuttle guards*, dye-house trucks*

Clark Equipment Co. D-475
Narrow-aisle reach truck*, weighing attachment*, lift truck, pallet truck

Colson Corp. D-480

Continental-Diamond Fibre Corp. D-461
Roving cans, materials-handling containers

Darnell Corp., Ltd. J-212
Casters and wheels, rubber products

Excel, Inc. J-233
Materials-handling equipment

Fairbanks Co. D-459
Caster*, trucks, wheels

Faultless Caster Corp. D-473
Casters: industrial, textile, thread guard, wheel

Fisher Mfg. Co., Inc K-314
Warp-handling equipment

General Box Co. K-308
Storage and materials-handling containers

Hyster D-480

National Vulcanized Fibre Co. J-212
Boxes, trays, roving cans, and floor trucks

Paddock Co., J. C. E-442
Collapsible cloth skid, floating-bottom creel truck, fibre boxes

Raymond Corp. D-458
Hydraulic hand pallet truck, mast for high lifts*, clamp device for bale handling*, stacker*

Southern States Equipment Corp. J-266
Can dolly*

Spaulding Fibre Co., Inc. J-202
Seamless roving cans, lightweight trucks and boxes, and conditioning boxes

Standard Conveyor Co. A-115
Conveyors*

Sterling Engineering & Mfg. Co J-216
Self-stacking boards for handling bobbins, cones, tubes, and quills

Texpak Plastics Inc. K-311
Doff boxes*, fiberglass trucks*

Towmotor Corp. J-285
Triple-high, free-lift mast equipped with cotton-bale clamp*, and fork-lift trucks

Union Asbestos & Rubber Co D-480

Union Steel Products D-480

Yale & Towne Mfg. Co. D-470
Lift trucks, hoists

POWER-TRANSMISSION EQUIPMENT—BELTS, BEARINGS, SPEED REDUCERS

Abney Mills. Southeastern Loom & Machine Works Div. A-130
Spinning-frame pulley spindle drives

Allis Co., Louis B-511
AC drive

Allis-Chalmers Mfg. Co. A-142
Speed changer*, package drive

American Pulley Co. D-479
Speed reducers, V-belts drives

Bal Corp., Wm. G-838
Vulcanized-fibre mill boxes, tote boxes, waste hampers, telescope cases, box trucks, open-side box trucks, drop-front box trucks, doffing trucks, and tote-conveyor box*

Baston Co., Louis B. J-223
Card drives*, motor drives, aluminum pulley drives*, transmitted gears*

Best & Co., Edward H. J-268
Rubber compressive shrinkage belt*

Boston Woven Hose & Rubber Co. A-102
V-belts, card belting

Clark Equipment Co. D-475
Narrow-aisle reach truck*, weighing attachment*, lift truck, pallet truck

Cleveland Worm & Gear Div., Eaton Mfg. Co. B-506
Worm-gear, fan-cooled speed reducers*, motorized mechanical variable speed drive*, speed reducers; worms and gears; variable-speed drives

Continental-Diamond Fibre Corp. D-461
Laminated and molded gears

Dayco Textile Products Co. A-136
V-belts

Dixie Bearings, Inc. E-416
Ball roller and thrust bearings, pillow blocks and flange units, oil seals, "O" rings, bronze bars and bearings

Dodge Mfg. Corp. E-403
Fluid drives and couplings, v-belt drives, bearings,* and variable-pitch sheaves

Eaton Mfg. Co. Dynamatic Div. B-506
Variable-speed drives and electric brakes and clutches

Extremultus, Inc. A-126
Nylon-core belts, cotton-card belts, wood-card belts, and twister belts

Fould & Son, I. J-227
Nylon-core belting

Gates Rubber Co. E-443
Belts

Goldens' Foundry & Machine Co. J-219
Replacement ball bearings and new high-capacity V-belt sheaves, V-belt drives

Graton & Knight Co. B-507
Round belting, combination leather and plastic belt

Moffatt Bearing Co. J-265
Antifriction bearing service

Piedmont Machine Shop, Inc. K-322
Gears, studs, picker bearings

Reliance Electric & Engineering Co. A-144
Gearmotor, mechanical and electric adjustable-speed drives

J. E. Rhoads & Sons D-471
Round belts*, other belts

Saco-Lowell Shops, Replacement Parts Div. H-835
Gears

Southern States Equipment Corp. J-266
Individual card drive.

Square D. Co. G-847
Adjustable-speed drives

Ton-Tex Corporation E-431
Spinner, corner belting, loom strapping, card-drive belts, field-vulcanizing equipment

U. S. Rubber Co., Mechanical Goods Div. K-317
V-belts, variable-speed V-belts, timing belts, flexible couplings, and spinner belts

Valentine, Ira M. E-429
Stock and special gears, speed reducers

T. B. Wood's Sons Co. J-242-B
Ultra V-drives, couplings, MS and MCS motion control drives, variable-speed drives, timing belt drives, motor bases, card drives

. . . *Turn to page* 156

* New since Greenville Show, 1958

The above photograph looks remarkably neat and uncluttered to anyone familiar with a conventional spooler room. It immediately becomes apparent that the old bulky operators' tables are gone as well as the tridents full of cheeses and starters, the creel truck and the troughs on the spooler. These items have been incorporated in the Fisher warp spooler doff system (patents pending) and the specialized starter—cheese unit. (over 40 mills equipped to date)

For additional information on this or other specialized materials-handling equipment write, call or visit us in Hartwell.

We'll be looking for you at the Greenville Textile Show Booths 314-315

J. Glenn Fisher
Robert M. Matthews
James N. Fisher
C. A. Matthews
Neal Houston
J. W. Davis
J. C. Long

Manufacturers & Designers of Quality Materials Handling Equipment

FISHER MANUFACTURING CO. INC., Hartwell, Ga.

Telephone FR-6-2125

CIRCLE 155 ON READER SERVICE CARD 155

PRODUCT **BOOTH**

PROTECTIVE COATINGS

Minnesota Paints, Inc. K-326
Chemical- and water-resistant enamels, mildew-resistant finishes

Engineered Plastics, Inc. G-846
Coatings

Lincoln Engineering Div., McNeil Machine & Engineering Co. B-510
Complete range of airline quick-disconnect couplings and fittings*, air compressors*, hydraulic paint spray*

Olney Paint Co., Gilman Paint & Varnish Co. E-446
Paints

PACKAGING, SHIPPING

Acme Steel Products Div., Acme Steel Co. B-517
Automatic compression-strapping machine*

American Viscose Corp. J-221
Semiautomatic strapping machine*, strapping hand tools

Brainard Steel Div., Sharon Steel Corp. D-477
Steel strapping

Burlap Tubing Manufacturers, Inc. K-325
Laminated-burlap carpet wraps, adhesive, wire ties and pullers, bias-sewn burlap tubing

March Stencil Machine Co. J-229
Stencil-cutting machines*, full line of marking supplies*

Mechanical Felt & Textiles Co. J-273
Marking devices

Permacel K-335
Slasher tape, strapping tapes

Signode Steel Strapping Co. H-835-B
Fully automatic power strapping machine, strapping applications*

Sonoco Products Co. J-244
Folding boxes

Stanley Works D-467
Steel strapping

SPINNING, TWISTING, THROWING EQUIPMENT AND SUPPLIES

Adams, Inc. E-447
Stop motion for ring frames

American Lava Corp. D-463
Display of ceramic thread guides

Armstrong Cork Co. I-816
Drafting rolls, aprons

Bahnson Co. H-830
Vacuum collection unit for broken end and fly, spinning-frame creels

Boston Woven Hose & Rubber Co. A-102-A
Rubber rub aprons

Bouligny Co. D-474
Rebuilt spinning frame, pendulum-weighting-arm drafting system*

Burlington Ribbon Mills B-432
Nylon spinning tape, nylon twister tape

Carter, Inc., A. B. A-124
Spinning and twister travelers, drafting system*

Coats & Clark, Inc. B-512
Nylon twister travelers, metal-insert nylon travelers

Crabtree Textile Accessories, Inc. K-339
Sintered aluminum and hard ceramic thread guides, tension devices, wire guides

Daiwa Spinning Co., Research Dept. L-905
Spinning equipment

Davis & Furber Machine Co. D-476
Leather and synthetic tapes and aprons

Dayco Textile Products Co. A-136
Roll coverings and aprons, rub aprons

G. Dikkers A-128
Spindle lockwashers

Dixon Corp. G-850
Spinning-frame change-overs, drafting systems, fiber-control method

Engineered Plastics, Inc. G-846
Spindle adapters

Goldens' Foundry & Machine Co., Inc. J-219
Ball-bearing conversion units for spinning machines

Heany Industrial Ceramic Corp. B-514
Thread guides, tension devices

Kanegafuci Machine Co. L-905
Doffing machine

Kluttz Rings, Inc. A-110-A
Spinning and twisting rings

G. F. League Mfg. Co. A-106-A
Loom parts and beams

Lambeth Rope Corp. J-222
Cotton and nylon spinning tapes, tape-bonding machine, tape-cutting machines

Leesona Corp. H-810
Twister coner

Machinecraft, Inc. I-828
Double-apron drafting system, ball-bearing top rolls, nylon nonlubricating top rolls

M-B Products J-227
Pneumatic roll pickers

Meadows Mfg. Co. I-812
Jumbo carpet-yarn twister*, ring twister*, tire-cord cable twister*

Mechanical Felt & Textiles Co. J-273
Clear plush*, tubular clearer cloth*, leather drafting aprons, guides

Mitchell-Bissell Co. E-430
Ceramic and chromium-plated wire thread guides

Mitsui & Co. L-905
Spinning frames

T. J. Murphy Fur Co. J-223
Roll covering*

National Ring Traveler Co. J-213
Ring travelers

Nippon Spindle Mfg. Co. Ltd. L-905
Spindles

O-M Spinning Machine Mfg. Co. Ltd. L-905
Spinning equipment

Parks-Cramer Co. B-502
Vacuum-collection system, spinning creel

Perfecting Service Co., Precision Gear Div. E-409
Modernization units for opening through spinning

Piedmont Machine Shop, Inc. K-322
Spinning frames, twister, frames

Pneumafil Corp. A-118
Vacuum end collectors

Progressive Engineering, Inc. A-128
Antifriction top rolls, cradles for spinning and roving drafting systems

Reiner & Fuerst A-128
Spinning and twister rings

Rose & Co., E. F. J-207
Wooden parts for spinning*

Saco-Lowell Shops, Replacement Parts Div. H-835
Spinning frame featuring oilless spinning change-over*, nylon-back saddle inserts, solid-back top rolls, nylon snap-on bearings, nylon inserts for front saddles, nylon cap bar nebs, rings, travelers

U. S. Ring Traveler Co. I-801
Ring travelers

Whitehead Die Casting Co. I-828
Bobbin holder operating on spinning frame

Whitin Machine Works I-819
Two 36-spindle spinning frames*, spindles, ring holders, hand brakes, bobbin holders, spinning change-overs and change-over material in operation

Whitinsville Spinning Ring Co. J-209
Spinning, twister rings; accessories

F. A. Young Machine Co. J-257
Spinning frames, parts and repair parts*

Zinser, Texitilmaschinen Grubh. A-128
Roller-bearing spindles

WARP-PREPARATION EQUIPMENT

Abington Textile Machinery Works H-829
Hand knotters

Allen Beam Co. A-101
High-speed warper model, large-capacity warper beam, segment of creel and electronic tension devices

American Lava Corp. D-463
Display of ceramic thread guides

Anheuser-Busch, Inc. B-513
Corn starches and dextrines

Barber-Colman Co. J-254
Warp-drawing machine, portable warp-tying machine, and portable warp-tying machine with warp frame

Clinton Corn Processing Co. J-205

Cocker Machine & Foundry Co. H-836
Section beam warper, slasher

Creamery Package Mfg. Co. A-127
Stainless-steel rotary slasher pump, continuous starch cooler, stainless-steel starch homogenizers

Dayco Textile Products Co. A-136
Slasher rolls

Edda International Corp. A-129
Warp tying-in machines

Hayes Industries, Inc. E-433
Aluminum beamer

Heany Industrial Ceramic Corp. B-514
Thread guides and tension devices

Hubinger Co. B-501
Commercial starch

Kidde Textile Machinery Corp. D-478
Slasher, fiberglass warper

Manton-Gaulin Mfg. Co., Inc. I-818
Textile homogenizer, laboratory homogenizer, two-state colloid mill

Mechanical Felt & Textiles Co. J-273
Guides of porcelain

Mitchell-Bissell Co. E-430
Ceramic and chromium-plated wire thread guides

... *Turn to page* 159

* New since Greenville Show, 1958

YOU CAN USE A LARGER SHAFT WHEN YOUR "SPECS" READ HYATT

Need a larger shaft without disturbing envelope dimensions? Take advantage of a Hyatt option by omitting the inner race. You can add the thickness of the Hyatt inner race to the shaft and let the rollers operate directly on shaft. Just be sure that the shaft is suitably hardened and ground. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

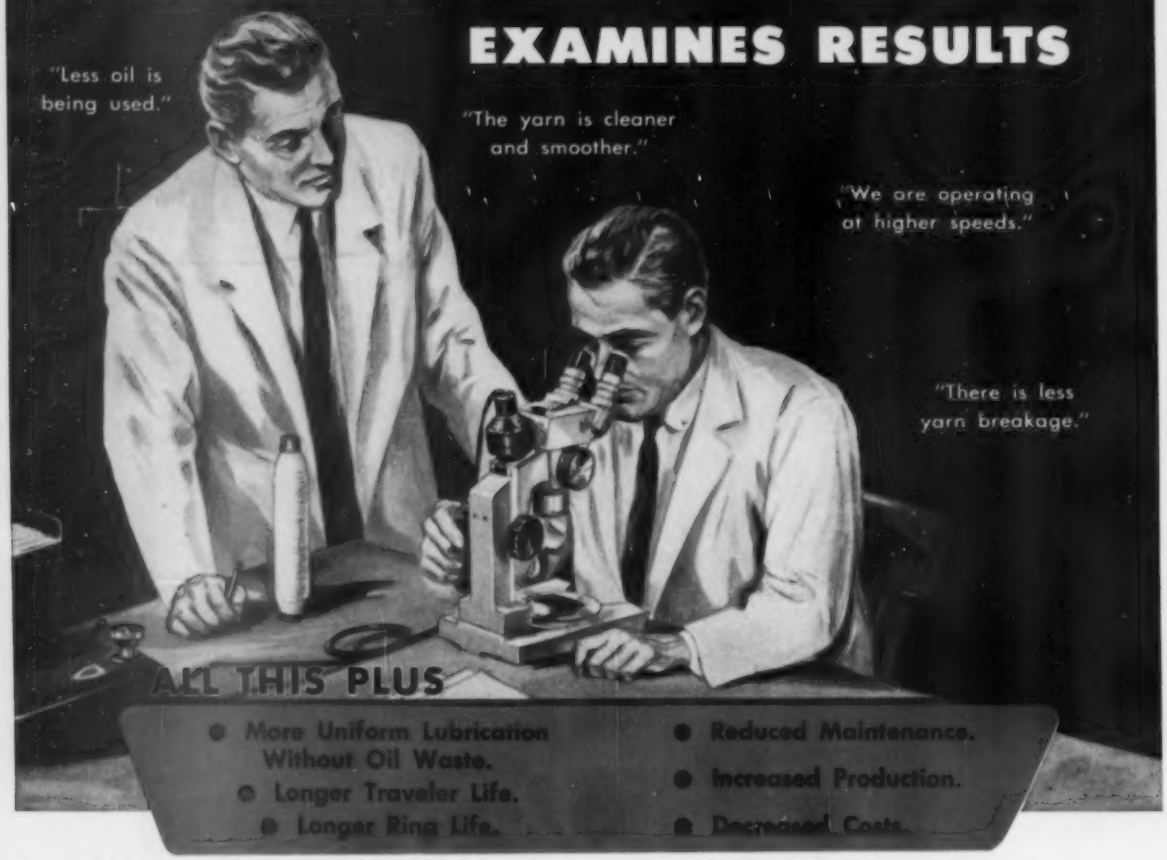
Replacement bearings available through United Motors System and its authorized bearing distributors.

HYATT HY-ROLL BEARINGS

IN ROLLER BEARINGS HYATT IS THE WORD FOR GM RELIABILITY

CIRCLE 157 ON READER SERVICE CARD 157

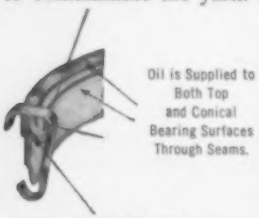
A USER OF THE NEW "M" TYPE HERR CONICAL RING EXAMINES RESULTS



Now, "M" Type Herr Conical Rings introduce a new method of lubrication called Seam Lubrication. By the principle of capillary attraction oil finds its way from the reservoir through the top and side seams to the wearing surfaces. The minute seams, so fine that they are hardly visible, control the amount of flow so that every drop of oil is utilized. There is no waste—no oil surplus to contaminate the yarn. The operation is clean. There is no rewicking. Maintenance costs are lowered. Oil consumption is greatly reduced, yet faster spindle speeds are possible without extra wear to ring or traveler.

The "M" type Herr Ring has been thoroughly tested for several years in some of the largest textile plants.

Write today. Let us give you all the facts that lead to greater profits for you.


Oil is Supplied to Both Top and Conical Bearing Surfaces Through Seams.
Oil Flows to Annular Reservoir Within the Ring. Then is Drawn by Capillary Action Through Seams.

The 5" diameter 43/64" face Herr "M" Type Ring has only one oil cup.
Herr travelers are specially designed to provide best results with this ring.

HERR MANUFACTURING CO., INC.

309 FRANKLIN STREET • BUFFALO 2, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

SEE US AT BOOTH 267 AT THE SOUTHERN TEXTILE EXPOSITION—GREENVILLE, S. C.

INDEX TO PRODUCTS . . . *Begins on page* 148

National Starch & Chemical Corp. E-455
Warp-sizing agents

Penick & Ford Ltd., Inc. D-427
Starch and starch derivatives

Permacel K-335
Slasher tape

Seydel-Woolley Co. J-238
Complete line of warp sizes

Staley Mfg. Co., A. E. E-412
High-temperature converter*

Uster Corp. D-469
Warp-tying machine*

West Point Foundry & Machine Co. I-804
Jet cooker*, high-capacity size box*, automatic equi-tension creel brake*, multicylinder slasher

WEAVING EQUIPMENT, SUPPLIES

Abney Mills, Southeastern Loom & Machine Works, Div. A-130
Maxbo shuttleless loom, high speed shuttle loom, loom parts

Armstrong Cork Co. I-816
Loom supplies

Bahan Textile Machinery Co., Inc A-140
Loom parts

Baker Mfg. Co., Inc. H-834
Improved dobby loop*

Batson Co., Louis B. J-223
Harness adjusters*, harness-frame adjusters*, pull-down jackstick with sliding cuff*, wood lays, handrails, binders and lug blocks, dobby stirrups and loops, shuttle furs, beam barrels, camshaft gear with taper bushing*, extended clamping sword caps*, and improved repair parts

Bullard-Clark Co., E. H. Jacobs Div.
Loom leathers, picker sticks E-422

Carter Inc., A. B. A-124
Weavers knotter.

Continental-Diamond Fibre Corp. D-461
Loom parts

Crompton & Knowles Corp. A-139
Automatic bobbin-changing dobby loom with paper indication*

Dayco Textile Products Co. A-136
Loom supplies

Draper Corp. A-132
Two shuttleless looms*

Edda International Corp. A-129
Reed cleaning and polishing equipment, Maxbo shuttleless loom

Engineered Plastics, Inc. G-846
Loom parts

Garland Mfg. Co. A-106
Plastic lug straps*, plastic sweepsticks*, loom accessories*, pickers

Graton & Knight Co. B-507
Straight and curved check straps, binder leathers, and pickers

Inter-Con-Tex Import Co. E-432
Plastic pickers, sweepsticks

E. H. Jacobs E-422
Loom-weaving supplies

Leesona Corp. I-810
Unifil loom winder

Livermore Corp., H. F. A-180-A
Loom parts

Mechanical Felt & Textiles Co. J-273
Fiber-covered picker rods*, loom bumpers*, pickers, lug straps, sweep sticks, picker sticks

Medley Mfg. Co. (Agent for S.A.C.M.) L-907
Drawing frames

Murphy Fur Co., T. J. J-223
Shuttle fur

Norris Bros. E-432
Picker sticks, binders, skewers

Pioneer Heddle & Reed Co., Inc. J-212
Frames, heddles, reeds, and accessories

Rice Dobby Chain Co. E-432
Dobby cords, lug straps, pattern chain bars, sheaves

Rhoads & Sons, J. E. D-471
Check straps*

Schmidt Mfg. Co. of S. C. E-456
Temples, harness frames, heddles, reed-cleaning and polishing machine, shuttle-adjusting machine

Snowiss Fur Co., B. E-432
Australasian opossum skins for shuttle fur and manufactured opossum and muskrat shuttle fur strips

Southern Machinery Co. B-515
New Draper XD loom equipped with Hunt let-off

Steel Heddle Mfg. Co. A-137
Loom-harness equipment, quills, picker sticks, drop wires, warp-preparation equipment, impregnated and improved phenolic shuttles*

Texpak Plastics, Inc. K-311
Picker sticks and pickers

Theiler Corp., H. J. I-822
Single-cylinder dobby

WINDING AND SPOOLING

Abbott Machine Co. I-813
Radial quiller, large-package automatic winder

American Lava Corp. D-463
Ceramic thread guides

Chavis Textile Sales Co. A-115-A
Winder supplies

Crabtree Textile Accessories, Inc. K-339
Sintered-alumina hard ceramic thread guides, tension devices, wire guides

Foster Machine Co. I-827
Winders

Heany Industrial Ceramic Corp. B-514
Thread guides and tension devices

Leesona Corp. I-810
Winding machine*, precision unit winder, loom winder

Mechanical Felt & Textiles Co. J-273
Guides of porcelain and other materials

Mitchell-Bissell Co. E-430
Ceramic and chromium-plated wire thread guides

Scharer Textile Machine Works E-449
Automatic filling winding units for cotton, woolen worsted, and man-made-fiber yarns. Units of 2-spindle super speed, 6-spindle, and 10-spindle

Snowiss Fur Co., B. E-432
Sheepskin creel pads

Theiler Corp., H. J. I-822
Automatic filling winder

BOBBINS, SPOOLS, QUILLS, ETC.

Akron Spool & Mfg. Co. J-247
Spools, bobbins, spobbins*

Bowen-Hunter Bobbin Co. J-212
Bobbins

Crabtree Textile Accessories, Inc. K-339
Polyethylene loom products, package holders, bobbins, tubes

Dixie Bobbin Co. E-432
Roving bobbins

Engineered Plastics, Inc. G-846
Bobbins

Glover Wood Turning Co. E-432
Loom bobbins, warp spinning bobbins

H & P Spool & Bobbin A-128
Wool quills, fiber head spools

Mechanical Felt & Textiles Co. J-273
Bobbins, spools, quills

Modern Plastics Engrg. Corp. A-128
Plastic yarn carriers

National Vulcanized Fibre Co., Lestershire Spool Div. J-212
Spools and bobbins

New England Paper Tube Co. A-128
Dye head-package shipping tubes

Parks Co., M. H. J-227
Spools, bobbins

Sonoco Products Co. J-244
Spools, bobbins, cones, tubes etc.

Textube Corp. A-128
Paper tubes, quills, and roving bobbins

Vermont Spool & Bobbin Co. A-128
Wool spools, large bobbins

MACHINE-SHOP EQUIPMENT

Brown & Sharpe Mfg. Co. B-516

Dixie Bearings, Inc. E-416
Bearings, pulling tools

Engineered Plastics, Inc. G-846
Specialty items and materials

Minnesota Mining & Mfg. Co. B-516

Ridge Tool Co. E-435
Pipe tools, hex wrench*, tubing cutter*, chain wrenches*

Rockwell Mfg. Co. B-516

Sonoco Products Company J-244
Paper specialties

Toledo Pipe Threading Machine Co.
Pipe-threading machines A-144

WASHROOM EQUIPMENT

Selig Co. J-232
Sanitary materials

West Chemical Products, Inc. K-340
Liquid hand soaps and dispensing equipment, roll paper towels, and protective creams and garments

OFFICE EQUIPMENT

Addressograph-Multigraph Corp. K-362
Office reproduction equipment*

International Business Machines Corp. D-460
Data-processing system*, data-collection system*

Monroe Calculating Machine Co. K-343
Calculating and adding machines

National Cash Register Co. K-365
Accounting machine*

WATER HEATING EQUIPMENT

Hotwatt, Inc. E-426
Electric heating elements

Johnson Corp. E-437
Instant steam-water heater

Patterson-Kelley Co., Inc. K-360
Working model for hot-water heating system for process water, gas-fired storage water heater*

. . . *Turn to page* 171

* New since Greenville Show, 1958

Watson & Desmond

MAIER-FLÜGEL

With The New Maier F-Type Flyer You Get 30 - 40% Weight Increase With The Same Package Size!

The new Maier F-Type Flyer compresses the roving and winds it without friction on the bobbin. This is how you obtain from 30% to 40% weight increase with the same package size . . . and equal or better roving quality!

With the Maier F-Type Flyer, you get maximum efficiency in the processing of any type of cotton, wool or synthetic fiber, because you get longer operation of the flyer per doff . . . less ends down on roving frames and spinning frames . . . less creeling on spinning frames. And the roller needs absolutely no maintenance.

Unequalled dynamic balancing gives the F-Type Flyer a maximum displacement of center of gravity of only 0.10 mm. All flyers have the latest chrome-plated finish.

F-Type Flyers are made to fit all makes of roving frames and are adaptable to any spindle spacing.

Call your Watson & Desmond representative today. He will measure your frame, recommend the widest possible flyer and give you an estimate of the increased weight of roving you can obtain with the new Maier F-Type Flyer.

See Us At Booth 128

SOUTHERN TEXTILE EXPOSITION

OR CALL THE FOLLOWING WATSON & DESMOND REPRESENTATIVES:

IN CHARLOTTE:
J. A. Olwell
Edgar E. Ball
Marshall Gayle
EDison 3-6154

IN GASTONIA:
Richard V. McPhail
Box 1174
UNiversity 5-8631

IN WEST POINT, GA.:
H. Dorsey Lanier
Box 421
Phone 64-23363

IN GREENVILLE, S. C.:
Ray A. Norman
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CEdar 9-4279

IN GREENSBORO:
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Box 701
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More Than 40,000,000 Zinser SKF Spindles Now Serve The World's Textile Industry

THE ZINSER WARP SPINNING SPINDLE

There's a good reason why more and more mills are using Zinser Spindles with SKF inserts . . . they are performance-proven.

Because of the higher speeds and larger packages possible with Zinser Spindles, mills have increased production as much as 20%. Zinser Spindles are smooth running at highest speeds, easier to maintain and simpler to lubricate.

Sized for bobbin weights from 1 3/4 ounces up to 12 pounds . . . for speeds up to 18,000 R.P.M.

Whatever your spindle needs, investigate Zinser, manufacturers of filling spindles, warp spinning spindles, large paper package woolen spindles, high-speed twister and draw twister spindles-all with SKF inserts. Call Watson & Desmond today.

Nitrided Spinning & Twister Rings . .

THERE IS NO RING AS GOOD AS A NITRIDED RING

Spinning Rings: Reversible and non-reversible, 8 and 10 mm. curved and straight web . . . Twister Rings: Reversible and plain. Nitrided rings insure surface hardness of 67 to 69 degrees C. Rockwell . . . practically corrosion-free. Accurate profile, mirrorlike finish for longer life, fewer ends down, increased spinning and twisting production, improved yarn quality . . . Specify R & F Nitrided Rings. Chrome manganese twister rings also available for heavy traveler applications.

Call Watson & Desmond For...

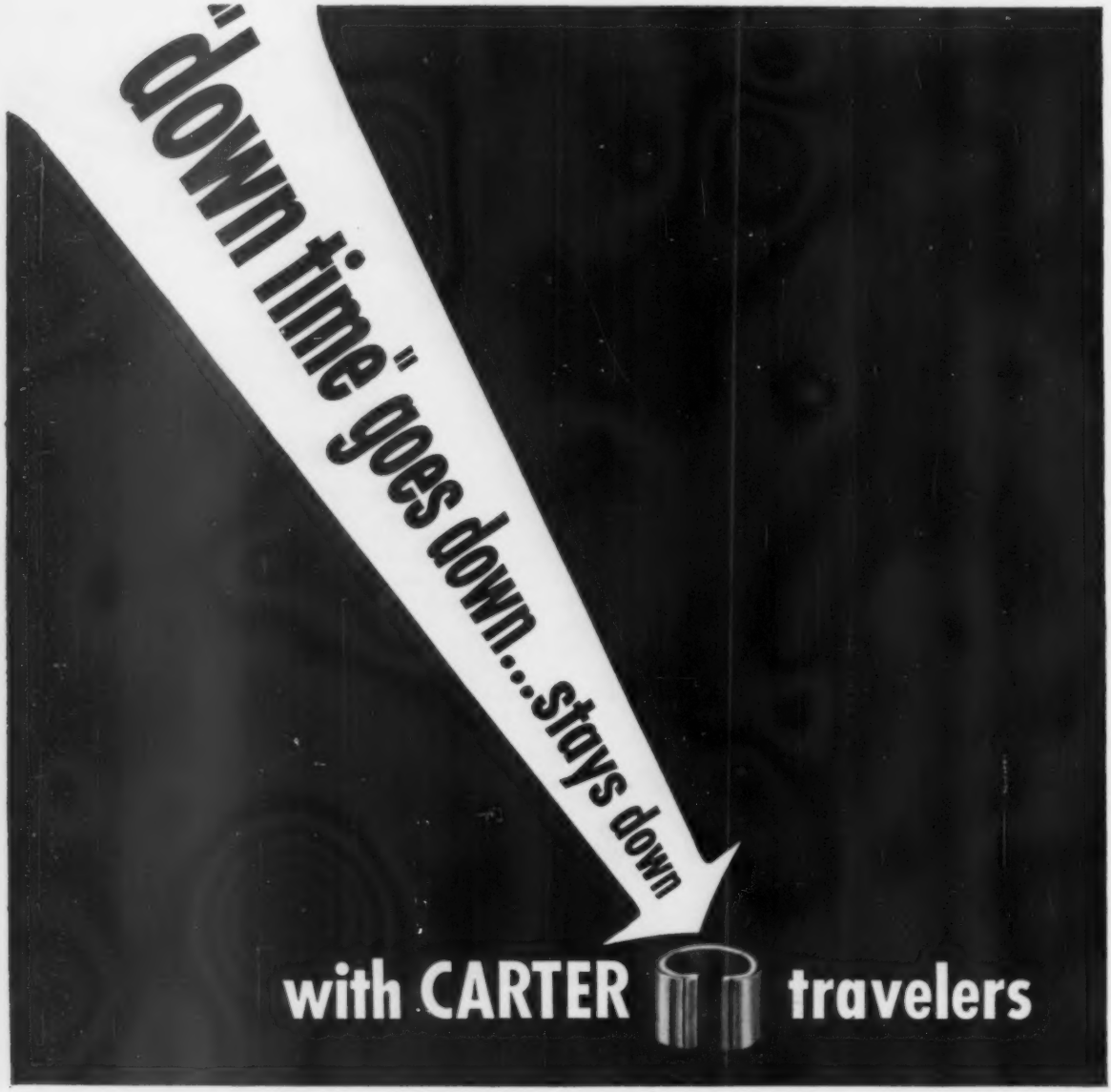
- Shuttles ..... Watson-Williams Mfg. Co.
- Anti-Friction Top Rolls & Ny-Pre-Lon Cradles for Spinning and Roving ..... Progressive Engineering Co
- Paper Spinning Tubes & Quills ..... Textube Corporation
- SKF Roller Bearing Spindles ..... Zinser
- Maier Prima Flyers ..... Eugen Maier
- Spinning & Twister Rings ..... Reiners & Fuerst
- Wood Spools, Bobbins & Cones ..... Vermont Spool & Bobbin Co.
- Fibre Head Spools & Bobbins ..... H & P Spool Bobbin Co.
- Plastic Yarn Carriers & Spindle Adapters .... Modern Plastics Engineering Corp.
- Shuttle Fur ..... R. M. Taylor Co.
- Humidifiers ..... Walton Laboratories, Inc.
- Dye Tubes & Headless Shipping Packages ..... New England Paper Tube Co.
- Dubo Spindle Lock Washers ..... G. Dikkers
- Yarn Inspection Machines ..... Ernest Toenniessen
- Used Machinery
- Mill Properties & Appraisals

The Number Is...EDison 3-6154

TEXTILE SUPPLIES W D USED MACHINERY

Watson & Desmond INCORPORATED

P. O. BOX 1954 • CHARLOTTE, NORTH CAROLINA



When you specify CARTER TRAVELERS, you insure smooth, trouble-free spinning and twisting regardless of yarn count or spindle speeds.

Why? Because precision engineering—skilled craftsmen working with modern machinery—plus scientific laboratory quality control give you a product that cuts worry-time to a minimum...increases smooth running time.

Sold and serviced by a team of *specialists*, CARTER TRAVELERS help you make and sell a better product at a better profit.

Booth 124
Southern Textile Exposition
Greenville, S. C.
October 3-7, 1960

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D. E. Phillips.....P. O. Box 441, Clarksville, Ga.
P. L. Piercy.....128 Hudson St., Spartanburg, S. C.
J. R. Richie.....1307 Crabapple Lane, Raleigh, N. C.
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Larry Bellerose.....North Grosvenordale, Conn.
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Carter
TRAVELER COMPANY

DIVISION OF A.B. CARTER, INC. MANUFACTURERS OF THE BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA

New fully transistorized LINDLY Series 1000 *Ultra* Yarn Inspector

Typical Ultra Yarn Inspector Installation: detecting head mounted on floor stands, transistorized control unit attached to leg.

. . . automated "first" on view at Greenville Exposition, 1960

New Lindly features for multi-filament textile and tire cord yarn quality control and reduction of warping costs keep pace with rapid advances in applied electronics. Our transistorized units have undergone long and careful testing under actual mill conditions as well as in our laboratory. Now we introduce, for the benefit of both synthetic yarn producers and the processors of yarn, the new transistorized Lindly Series 1000 Ultra Yarn Inspector — the first of its kind.

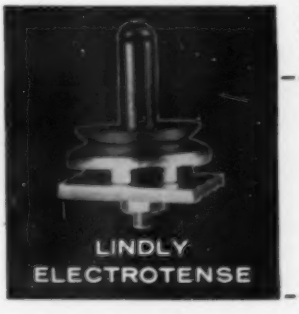
Controls: Fully transistorized circuitry achieves maximum stability and automatic sensitivity control — longer component life, less maintenance, simplicity in servicing, greater compactness, less power consumption. Choice of single level, dual level, and dual level with length selector.

Detecting Head: New optical system makes possible better electronic performance, eliminates need for light deflector cover, improves uniformity of sensitivity across width of the yarn sheet — has special new lamp with simpler alignment adjustments, completely cylindrical and longer yarn gauging surfaces, smooth finish resistant to accumulation of lint and dust.

See LINDLY Electronic Products
Booth 827
Southern Textile Exposition
Greenville, S. C.
October 3rd through 7th

FOSTER MACHINE COMPANY
Electronic Sales Division
Westfield, Massachusetts, U.S.A.
Southern Office:
Johnston Bldg., Charlotte, N. C.

297-0



Ask about options and variations that can adapt Lindly Series 1000 Ultra Yarn Inspection technique to your operation. Mail the coupon today—or send us your specific problem.

FOSTER MACHINE COMPANY
Electronic Sales Division
Westfield, Mass.

Please send me information on Lindly Series 1000 Ultra Yarn Inspector.

Name _____ Title _____
Company _____
St. & No. _____
City _____ State _____

CIRCLE 163 ON READER SERVICE CARD 163

24 HOURS A DAY

A Better Cloth for you with Clinton Products from corn

Clinton Starches provide better results in sizing warps because of uniform application of size, and increased starch penetration for smooth warps and minimum shedding at the slasher and loom. See your Clinton salesman today.

CLINTON TECHNICAL SERVICE is freely available upon request.

CLINTON

CLINTON CORN PROCESSING COMPANY, CLINTON, IOWA

Put strength, long life, silence into gears, couplings, loom parts with C D F Celoron® plastic

WORK MIRACLES IN TEXTILE MACHINERY—with this amazing golden plastic material! Celoron gears help eliminate noise, reduce wear on mating metal gears; and even the roughest-used helicals last . . . and last . . . and last.

HIGH MECHANICAL STRENGTH. Typical Celoron strengths: tensile, 6,500 psi; flexural, 10,000 psi; compressive, 25,000 psi; shear, 8,500 psi. Dimensionally stable and readily machined, Celoron fills the bill where costly metal parts fail.

ELECTRICAL INSULATION VALUE. Celoron is a non-conductor with high electrical insulation value. It makes ideal mechanical-electrical parts. Celoron couplings effectively insulate motors from driven machinery.

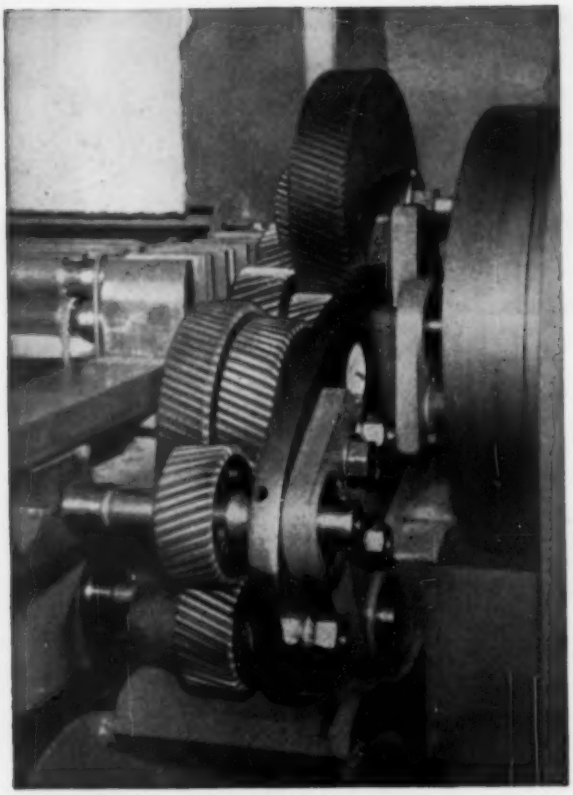
BETTER SERVICE. Your CDF Sales Representative is one of a corps of trained, experienced sales engineers CDF maintains across the country. Thoroughly familiar with most textile industry requirements, he can specify the plastic material that's best for your specific application. His recommendation will be backed by the widest line of industrial plastics now available—plus CDF's extensive manufacturing, engineering and research facilities. Contact him soon, or if you prefer, write directly to our home office.

Keep in close touch with *your* C-D-F sales engineer—a good man to know!

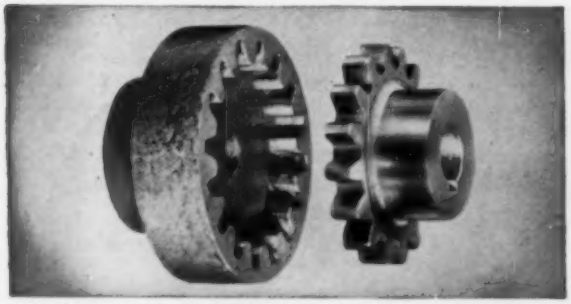
CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE Budd COMPANY • NEWARK 55, DEL.

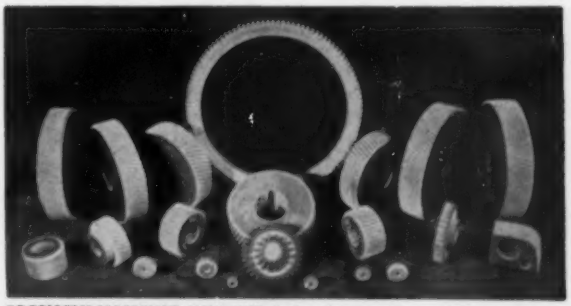
In Canada: 46 Hollinger Road, Toronto 16, Ont.



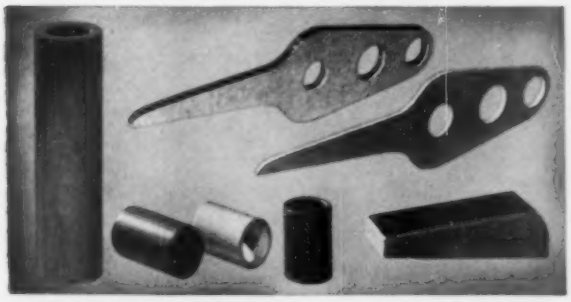
CELORON-TO-CELORON GEARS in drawing rolls made by Ideal Industries, Inc., Bessemer City, N. C. These are helical-cut gears—the toughest to machine, requiring the toughest material. Celoron is it. Other Celoron parts for this application are shown below, top right.



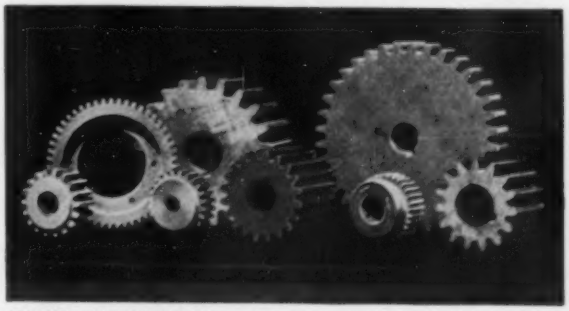
LOW-COST, EASILY-ASSEMBLED C-D-F Celoron flexible coupling transmits power smoothly, efficiently, silently . . . needs no lubrication, works on vertical or horizontal shafts.



PRECISELY MACHINED KEYWAYS help keep these Celoron parts silent and strong in the Ideal drawing rolls illustrated in top photograph. Note wide range of sizes and shapes.



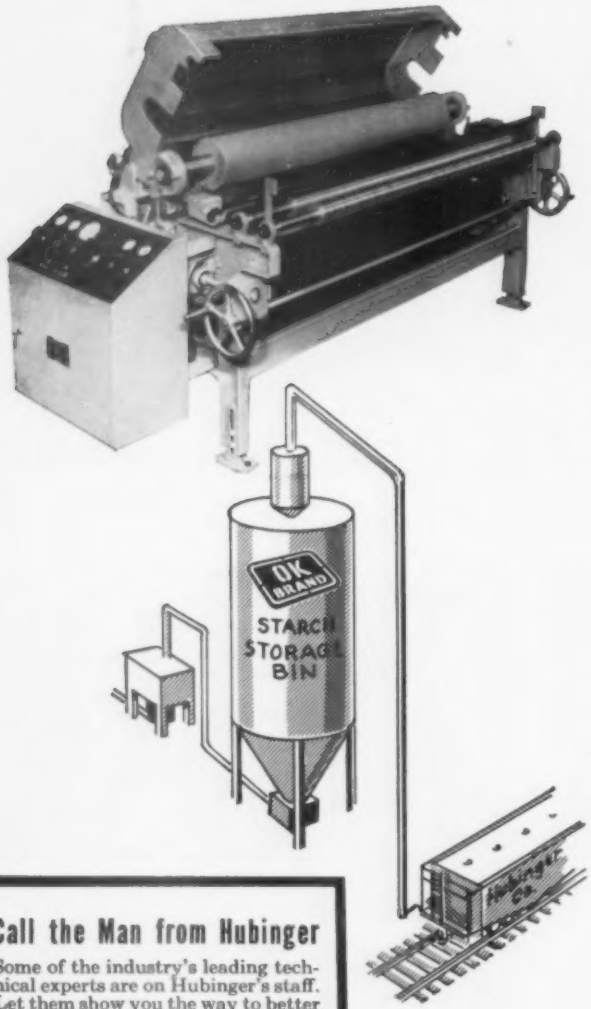
YEARS OF SERVICE, freedom from maintenance, resistance to moisture—that's what these C-D-F parallel plugs, knife guides, binder bushings give the mill operator.



STRONG, SILENT CELORON makes both drive and driven gears. Metal gears don't develop excess play, last longer when they mate with Celoron. Many applications are 100% Celoron-geared.

What you should know about STARCH*

YOU PROBABLY KNOW—BUT OTHERS MAY NOT



Q. What are the main causes of excessive shedding?

A. (1) Size not cooked sufficiently.

(2) Size mix too heavy or viscous.

(3) Size box temperature too low.

(4) Overdrying of warps.

(5) Not enough pressure on squeeze rolls.

(6) Improper dressing due to bad blankets or density of rubber squeeze rolls.

Q. What are the usual causes of soft warps?

A. If the trouble is continuous, the starch content of the size formula is probably too low; or too many ends are being put through one size box.

If the trouble is intermittent, one of the following could be the cause:

(1) Variation of starch content in size formula.

(2) Size foaming in size box.

(3) Too much agitation in storage kettle.

(4) Size mix prepared too far in advance of usage.

(5) Condensation of steam in size box.

(6) Using wet steam.

(7) Improper washing down of squeeze rolls.

(8) Slasher operating at slow speed.

Q. WHAT ARE THE BEST STARCHES AVAILABLE FOR SIZING COTTON AND SPUN SYNTHETIC WARPS?

A. OK BRAND STARCHES, of course, manufactured by THE HUBINGER COMPANY.

Call the Man from Hubinger

Some of the industry's leading technical experts are on Hubinger's staff. Let them show you the way to better products—and plant savings, too. The Hubinger representative will be pleased to place these experts at your service.

One of a series of articles. Write for the complete set and for our continuing technical data service, without obligation to:

THE HUBINGER COMPANY

601 Main Street • KEOKUK, IOWA

We thank the many textile mill men who crowded into our jam-packed display at the ATMA Exhibition, for their patience and for their enthusiastic comments on the Cocker GH Slasher.

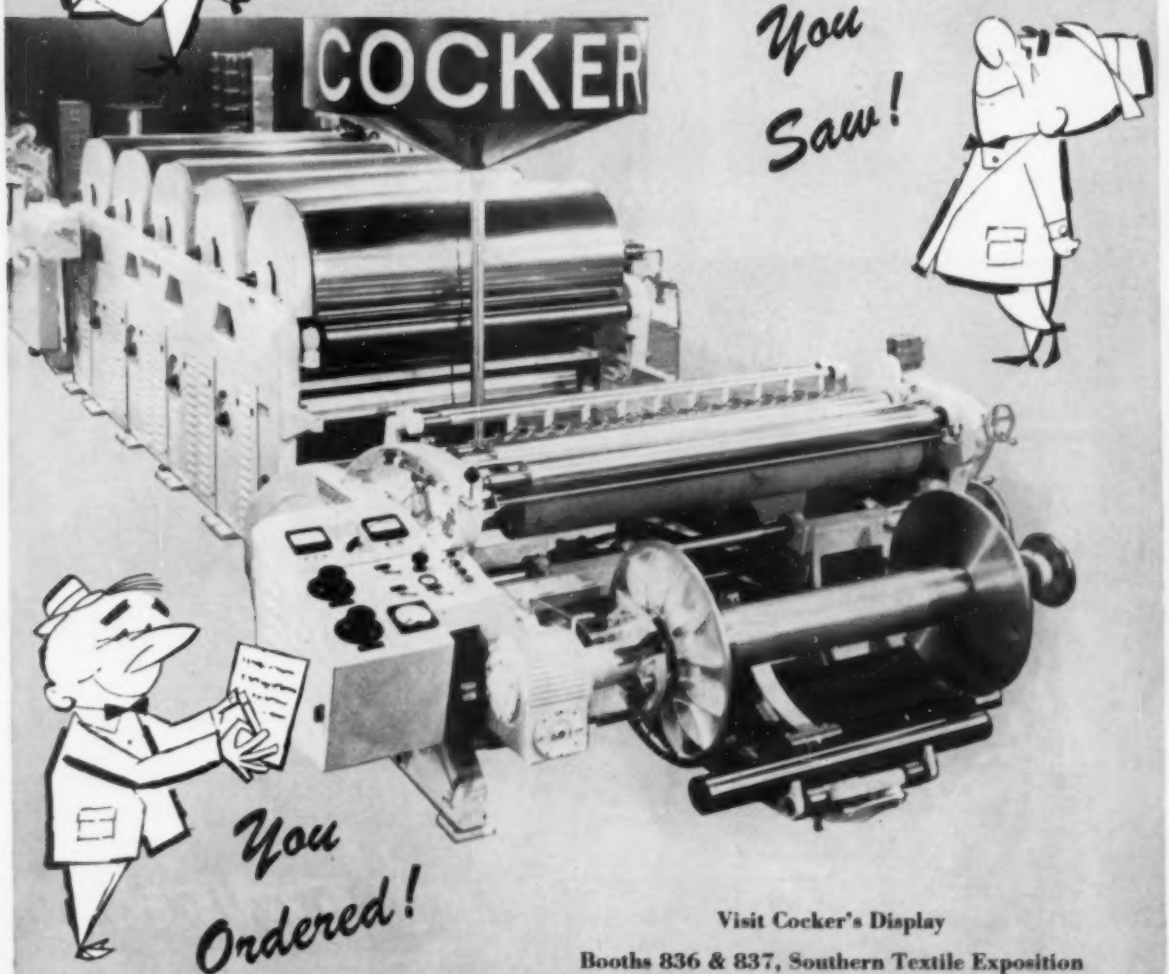
We thank you especially for the orders placed at and since the Exhibition — more orders than have been placed in a similar period in Cocker's many years of leadership in this field.

You will again have the opportunity to see this exceptional slasher at the Greenville Southern Textile Exposition and this time you can compare it with other make slashers. We invite you to examine the many exclusive features which have been standard for years and its new features. See the Cocker Torque Tube Drive* and the new Cocker HD Cylinder Section and let us give you full details on the Cocker Type B Beam Drive.

We know that you will agree that the Cocker GH is by far the most economical, versatile, and efficient slasher in the world.

*Pat. Applied For

You Came!



You Saw!

You Ordered!

Visit Cocker's Display
Booths 836 & 837, Southern Textile Exposition

COCKER MACHINE & FOUNDRY COMPANY

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Mexico, D. F.

PLANT & OFFICES
at Ranlo, N. C.
MAILING ADDRESS:
Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Glytex CMC

by KEEVER

New Glytex CMC is a water soluble warp size for the textile industry. Because of its precise formulation and carefully controlled production, Glytex gives you these specific advantages:

- — produces a smoother, more mellow hand for cotton, synthetics and blends.
- — provides better weaving efficiency even under lower weave room humidities.
- — forms a uniform non-congealing solution.
- — provides a cleaner operation and easier equipment clean-up.
- — resists bacterial breakdown, cutting B.O.D. to a minimum and reducing stream pollution.
- — may be used in smaller amounts, reducing operating costs and giving more warp mileage.
- — is soluble in warm water and can be desized without enzymes or other chemicals.

The Keever sales-service man is available at any time for technical assistance on the uses of Glytex. His cooperation in conducting thorough Glytex testing programs in your plant can be invaluable.

Explore the possibilities of improving your operations with Keever's new Glytex CMC.

For more information about Glytex CMC write for data sheet 2000.

THE KEEVER STARCH CO.

Textile Sales Division
118 South Pleasantburg Drive
Greenville, S. C.

General Offices: THE KEEVER STARCH COMPANY • Columbus 15, Ohio

Schärer fully automatic filling winders

1. Low frame, hence better accessibility for the operator
2. Double end creel for the supply packages, hence higher production and bigger workload per operator
3. Dust removing device, hence clean weft
4. Sensitive tension device, hence few thread breakages at highest speeds.

SchärerTextileMachineWorks
Erlenbach/Zurich Switzerland

Schärer

winds at
12 000
revolutions
Fully Automatic

Our machines will be on show at the Southern Textile Exposition Textile Hall GREENVILLE, South Carolina October 3 thru 7, 1960

Sole Agents for the United States:
Yeomans Textile Machinery Company
P. O. Box 1661
Spartanburg, South Carolina

Sole Agents for Canada:
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CIRCLE 169 ON READER SERVICE CARD

VSM
Swiss Textile Machinery Group

Coiling in 15" through 18" diameter cans up to 42" high.

Introducing...

The Ideal Feathertouch '750'

The most efficient super speed drawing ever produced

This two delivery frame produces as much sliver of the highest quality as does the average latest model four delivery frame. The Ideal '750' permits safe, practical, and steady speeds of 750 fpm with far less downtime than is encountered with four delivery frames. It saves on original investment, saves floor space, and drafts all fibers and blends.

Write today for full information on the extremely efficient Ideal Feathertouch '750'.

See the Ideal Feathertouch '750' in Booths 239—240 Southern Textile Exposition.

Ideal Industries, Inc.
Bessemer City, N. C.

THE ORIGINATORS OF HIGH SPEED DRAWING

INDEX TO PRODUCTS

. . . *Begins on page* 148

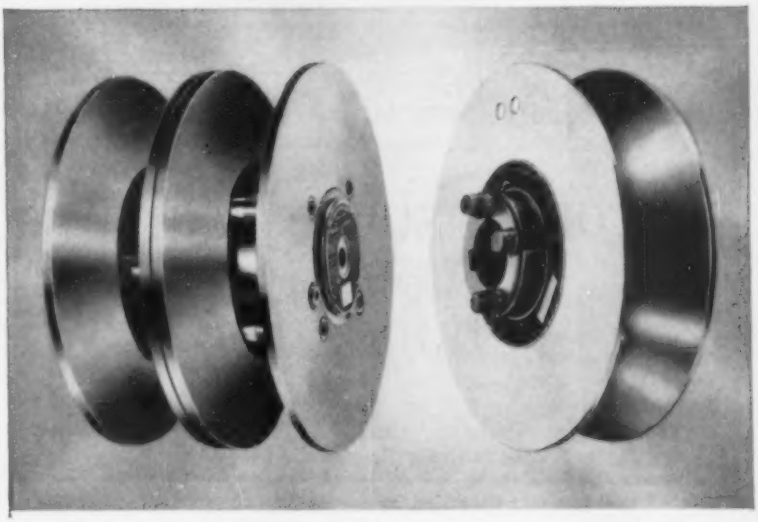
MISCELLANEOUS AND SPECIAL

Abington Textile Machinery Works H-829
Automatic remote-controlled bottom discharge receiver, card pen
Abney Mills, Southeastern Loom & Machine Works, Div. A-130
Hydraulic presses
Acme Steel Co. K-356
Slotted angle, brand rack*, floor plate
Atlanta Brush Co. E-420
Textile and industrial brushes
Baker Manufacturing Co. H-834
Textile specialty items
Batson Co., Louis B. J-223
Temple, cloth, shell, batching and clearer rolls; furs and skins; and machine mounts
Best & Co., Edward H. J-268
Fabric and felt machine parts
Bullard Clark Co., E. H. Jacobs Div.
Vibration pads E-422
Carolina Brush Co., Inc. K-309
Textile brushes
Continental-Diamond Fibre Corp. D-461
Fabricated parts
Crabtree Textile Accessories, Inc. K-339
Pneumatic equipment, cylinders, filters
Davison Pub. Co. 2nd fl. lounge
Textile-trade registers
Felters Co. K-349
Leveling mounts*, mounting pads
Gault Co., P. C. K-354
Music, paging, and locating systems
General Enterprises, Inc. K-341
Tapes and pressure tapes
Goldens' Foundry & Machine Co., Inc.
Castings J-219
Graton & Knight Co. B-507
Leathers, cements and belt dressing
Harley Mitcham & Co. K-329
Textile repair parts
Hunter, Inc., James D-465
Fiber locker-needle felting machine*
E. H. Jacobs E-422
Vibration-pad material
Jacobs Brothers K-334
Safety and housekeeping materials
Kidde Textile Mabcinery Corp. D-478
Tricot knitter
LaSalle Steel Co. K-352
Cold-finished and alloy-steel bars*
Lincoln Engineering Div., McNeil Machine & Engineering Co. B-510
Quick-disconnect couplings and fittings*, air compressors
Livingstone Coating Corp. J-201
Teflon coating, plastic coatings*, fluorocarbon telomer antistick and release agent (aerosol form)*
Lowell Industries, Inc. A-108-A
Machinery pad
M. B. Products J-227
Pneumatic roll pickers
Minnesota Mining & Mfg. Co. G-845
Splicing machine and bonding film
Perolin Co., Inc. K-361
Maintenance chemicals
Ross-Meehan Foundries K-303
Castings
Smith Enterprises K-318
Safety awards and employee gifts
Spaulding Fibre Co., Inc. J-202
Machine parts of vulcanized fibre

*New since Greenville Show, 1958.

AP

NOW AP OFFERS THE MOST COMPLETE LINE OF WIDE-RANGE ADJUSTABLE-SPEED DRIVES FROM STOCK



Single groove drives in "Q", "R", and "W" cross-section transmit up to 20 hp. Double groove drives in "R" cross-section transmit up to 30 hp.

Order from 7 sizes and 4 models of AP Wide-Range Adjustable-Speed Drives. Single groove drives in "Q", "R", and "W" belt cross-section width transmit up to 20 hp. And double-groove drives in "R" belt cross-section widths deliver up to 30 hp.

Previously made on special order for textile machinery manufacturers, AP 2-R Groove Adjustable-Speed Drives are now being made for Stock. Intended for use on machines where a heavy duty, dependable, economical adjustable-speed drive is needed, they are ideal for replacement of existing overloaded drives—and new installations—where increased capacities are required.

AP Wide-Range Adjustable-Speed Drives are the economical, compact and positive form of speed control. Furnishing quiet, accurate adjustment (up to 2:1), they insure proper drive speed for all applications.

FEATURES:

1 Exclusive double-tapered hub locks flanges securely—permits stepless, accurate speed adjustment. Small or large adjustments are precise and permanent, no freezing.

2 Precisely machined and dynamically balanced, all sheaves are strong, quiet running, long-lasting and trouble-free.

3 Simultaneously moving flanges insure correct belt alignment at all times.

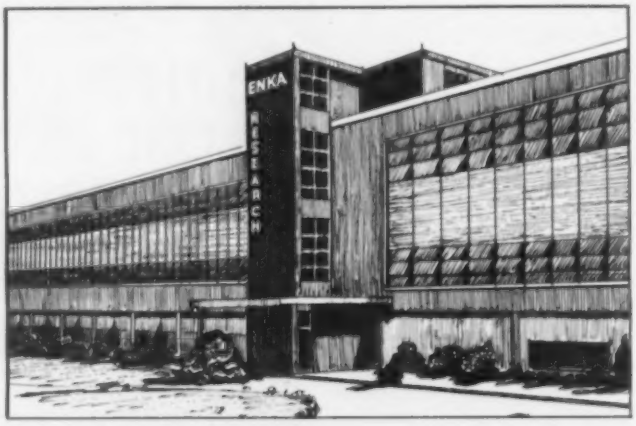
4 Companion Sheaves feature Q-D Bushings. Easily installed or removed, they grip shaft firmly.

Your AP *Distributor will tell you why more mill men are specifying* AP *Adjustable-Speed Drives. See him! His experience and engineering know-how will prove that it pays for you to standardize on* AP.

AP

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

2652



Through successful research... ENKA builds for the future!

WITHIN the walls of the Enka Research Center efforts are continuously directed toward improving Enka's yarns and fibers for a market which demands better and better quality, and developing new yarns to expand Enka's contribution to the textile industry. Through successful research, Enka is building for the future.

Here, quickly, are three major new developments from Enka research – ready to work for you...

NEW ENKA BLANC DE BLANCS™ NYLON

Now, for the first time, a truly white nylon yarn. Another "first" in the polyamid field for American Enka. Blanc de Blancs (white of whites) nylon is created by injecting the whiteness directly into the polymer . . . so that it actually becomes a part of the yarn itself. This yarn has been developed for intimate apparel fabrics and findings marketed in the greige, and for goods in special need of brilliance of white, and for goods that are not normally dyed. There has already been a strong demand for Blanc de Blancs in power net, leno and circular knit foundation garments. Blanc de Blancs nylon deniers currently being offered by Enka are: 40/8, 50/13, 70/32, 100/32, 140/64 and 200/32.

HYDROWARP PIRN for ENKA NYLON

Another step by American Enka to help maintain competitive nylon sales: a new four-pound 13 in. pirn. This new hydrowarp pirn increases net yarn weight per pirn, improves unwinding tensions of the yarn, and reduces operating costs in your mills.

NEW BRIGHT LUSTER STAPLE for ENKA RAYON STAPLE

This new American Enka development has been designed particularly for use in chenille bedspreads, both tufted and woven. In addition to its outstanding processing qualities, this fiber also facilitates the production of chenille bedspreads, exhibiting excellent resilience and bloom.

Whatever your needs in modern yarns and fibers, look to American Enka...for Enka research creates new opportunities for *YOU*.

So many good things begin with

ENKA

American ENKA Corporation, Enka, N.C. • Producer of nylon • rayon • yarns • fibers

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What's new this month in . . .

Fibers, Yarns, and Fabrics

By CAROL WILHELM, Copy Editor

Paris-Rome Flash: More Yardage

American textile men can see a definite note of optimism in the recent foreign fashion shows. All designers used an abundance of fabric. This fact spells bigger sales in the American fabric market. For textile men here have realized that trends predicted abroad soon become apparent at home—trends in the silhouette, fabrics, and color. Here are reports from TEXTILE WORLD'S news correspondents in Paris and Milan—reporting on the recent showing of fall fashions.

First, from Helen Avati in Paris:

Longer, wider skirts . . . drapes . . . huge coats . . . panels and scarves. **Inevitable result: booming fabric sales in the near future.**

Fall suits shown in Paris were made of jerseys, lightweight tweeds, flannels. The jackets often closed at the neckline with a scarf or tie. Some models were worn over full-length jersey sheaths in a contrasting color. The sheath served as a blouse and peeped out through generous slits in the skirts.

Coats have big enveloping collars. The favorite coat fabric was fleece. Flat mohair, plaid tweeds, rich duvetyns, and broadcloth followed in preference in that order.

Jersey, crepe, and lightweight wools were seen in daytime dresses —often with circular or bell-shaped skirts. Designers placed emphasis on sheer chiffon, matte satin, satin twills, velvet, brocade, and lamé for evening wear. Here—as elsewhere in the shows—designers used fabrics lavishly.

Sober, somber colors predominated in Paris. Prune and eggplant were most often used—with black, violets, old rose, bronze green, beige, and chocolate brown following close behind. Winter white—either alone or combined with brown —turned up everywhere. For evening wear, gold was forever recurring—in models and accessories.

Ensembles were matched with deep velvet hats—sometimes with huge pouch handbags. The favorite stocking shades were pearl gray, rosewood, and current.

Now from TW's correspondent in Milan, Gene Di Raimondo, who covered the shows in Rome and also in Florence:

Longer skirts . . . suits with matching stoles . . . voluminous tent-like coats. (Here, as in Paris, designers were not skimping on fabric.)

There was a tendency in the Italian showings for designers to concentrate on back interest in dresses, coats, and suit jackets; sloping soft shoulders often lost in an almost straight line from neck to wrist. Skirts were slightly lengthened to just cover the knees. Waists were never very defined, and were placed slightly higher or slightly lower than normal.

The same range of fabrics was seen in all the Italian collections. Wool tended to be lightweight. Shaggy, long-haired wools—which had predominated in European showings for the last two years—were not in sight. Woolens were compact and closely woven.

All the collections showed many models in plain and laminated Orlon, corduroy velvets, silk and wool ottoman, and ribbed cottons. A new type of opaque, lightweight velvet appeared in the evening-wear collection—in claret, black, and dark brown. But the fabric that stole the show was lamé either in plain gold or flowered.

The winning color this year in the Italian collections was gold—and not only for evening. Other new colors were a wide variation of reds and greens (topaz, vivid emerald, lime), pale shocking pink, and various gradations of brown or warm tones of camel. Violet was mixed with gray in some collection, and one Milanese house showed fuschia for both day and evening wear.

•

Aldon's Accents

Aldon Rug Mills, Inc., is showing a new line of hand-carved nylon accent rugs called the Tropicana group. The group was introduced at the Home-Furnishings Show in June.

The new pile rugs are available in five sizes. They come in oval and oblong shapes. Sixteen dye-fast colors are being offered. All are machine-washable.

New Yarn Agent

Aberfoyle Mfg. Co. is now representing Paul Whitin Corp. in the sale of Whitin's long-staple man-made-fiber yarns—in the 100% category and in blends. Special emphasis is being placed on Orlon Sayelle yarns.

Aberfoyle is also marketing a blend of Zefran and linen in conjunction with Dow Chemical Co. This new blend is slated for luxury items.

Vycron Plus

Stein-tex, Inc., has introduced four new wash-and-wear fabrics containing Vycron.

One, called Shantung, is a blend of 50% cotton, 45% Vycron, and 5% Bemberg rayon. It is available in plain colors.

The other are 50-50 cotton-Vycron blends. Linene is a linen-type

. . . *Turn the page*

fabric and is available in plain colors and prints. Covert-Cord is offered in solid colors, and Check-Mate is offered in checks.

Saves Money, Too

Von Kohorn International Corp. has developed a low-cost, fully continuous process for polymerizing and spinning acrylic fibers.

The patented process is being testing on a semicommercial scale. Results of the tests indicate a reduction in utility and labor costs of about 50% compared to conventional processes. Capital costs are reduced 70% because of the fully automatic and continuous polymerization and dissolving process of the polymer before spinning.

The process produces fibers that have greater uniformity, improved physical properties, and better dye affinity. Production costs are lowered by substantially increased yields in shorter reaction periods.

More in Verel

The Veriset Association has granted Seminole, Aragon, and Union Buffalo Mills, of United Merchants & Manufacturers, licenses to produce fabrics of Verel combined with other man-made spun yarns, and fabrics of carded cotton combined with Verel—including soft-filled sheetings.

In all cases, the fabrics will contain a maximum of 30% Verel, with the Verel content in the warp or filling or in both.

Laminated Line

Lamart Corp. has introduced a new line of checkered Mylar laminates in six metallized patterns.

Each pattern is available laminated to vinyl, cotton, or latex-impregnated paper. The new line comes in rolls to 54 inches wide, and in lengths up to 100 yards and over.

Homemaker Helped

Speedry Chemical Cloths has introduced a new line of seven impregnated household cleaning and polishing cloths.

The new cloths are permanently treated with special-formula silicones, detergents, waxes, and other chemically-activated ingredients. They are aimed at all sorts of household tasks.

The pressing cloth and the Dust 'N' Polish cloth are priced at 69¢ each, the others at 49¢. All are individually packed and are available in supermarkets, variety stores, and other retail outlets throughout the country.

Now It's Whiter

Du Pont has developed a new whiter nylon yarn called Type 91 nylon slated for use in foundation garments. It is a continuous-filament yarn.

The built-in whiteness of the yarn minimizes the need for bleaching or whitening steps in garment manufacture. The whiteness is retained for an indefinite time.

Du Pont points out, however, that the new yarn does not meet all the requirements for outerwear. Yet tests show that the new nylon is not affected by indoor light or chlorine bleaches. Resistance to acid and alkaline perspiration and gas-fume fading is the same as that of other nylon yarns.

Application for Type 91 nylon is in flat knits and power nets. The company is now testing the new nylon in raschel knitting and leno weaving.

Sample quantities are now available and are priced at $1.80 a pound for 70 denier, and $1.60 for 140 denier.

Filter Cuts Costs

Dynel filter fabrics are being used successfully in refining sugar-beet syrup and are sharply cutting labor and material costs. This is the report given by a refinery superintendent in California. The filters are used in the final filtration of 68-70 Brix standard liquor before it is crystallized to white sugar.

The cloths are backed by metal plates and form filter leaves. These can be removed individually and replaced by means of pull-out roller carriage slides.

The cloth permits periodic flows of up to 15 gallons per square foot per hour with no great sacrifice of filter-cycle length. The cloths are removed for cleaning only once a week—compared to cotton filters, which needed to be cleaned once each 8-hr. shift.

Other benefits: The new filters take up less space than the old plate and frame filters; sanitation, safety problems are eased; purity of end product is stepped up; liquor flow is improved through the entire process.

Survey Tells Facts

Resin-treated cotton fabrics in men's wash-and-wear dress shirts have reached a plateau in the popularity poll, according to a consumer survey conducted for Du Pont's Textile Fibers Dept. Yet blended fabrics of Dacron and cotton show signs of continued growth.

The survey indicates that there is a greater inclination to repurchase Dacron and cotton shirts. Also many of the people interviewed who now own wash-and-wear cotton shirts said that they plan to switch their next purchase to Dacron and cotton.

New Market Entered

Charles Bloom, Inc., is now producing upholstery fabrics. The company has introduced a new line of printed and woven 54-in. goods, in colorful traditional and contemporary designs.

A group of five prints—in subtle monochromes—is called Bloomcraft Continental Provincials. They look like linen, are of 15-85 linen-cotton construction.

Another group—with a contemporary feeling—consists of two woven Bloomcraft coordinates designed by Jack Lenor Larsen. These fabrics are woven of 79% cotton, and 21% rayon. They are called Ceylon and Ceylon Stripe. Analogously colored yarns create iridescence in the 16 solids, in either brilliant or subtle East Indian hues.

Color Added

Eastman Chemical Products, Inc., is introducing two new colors in its solution-dyed Kodel fiber. The new colors: brown and navy.

They will be produced in 3-den. staple and tow at $1.86 a pound for brown and $1.96 for navy.

SACM

COTTON EXHIBIT

AT THE GREENVILLE TEXTILE EXPOSITION

....presenting the new

2 Head High-Speed Drafter ER

The new SACM High Speed Drawing Frame (Model ER) for cotton and synthetics presents many new features: 1) Two head machine gives higher efficiency, remarkable accuracy and greatly improved accessibility. 2) Reduced number of deliveries allows the machine to be fed from larger cans with fewer piecings. 3) Quicker and highly simplified settings. 4) Patented drafting system gives effective speeds ranking among the highest with no lapping and perfect regularity of sliver for fibres up to 80mm (3⅛"). 5) Suction system gives cleaner operation. 6) New type creel allows positive guiding of slivers preventing false drafts. 7) Prolonged trouble-free operation with minimum maintenance . . . Ask for detailed information and arrange to see a demonstration of this remarkable new machine.

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Some items just lie on the shelf, eating up overhead. Murdering you...You make your money on merchandise that moves. Du Pont fibers help goods do exactly that: move!... Du Pont fiber trademarks are known, trusted, proven. They're miles ahead in consumer preference. (Fact: 2 to 1, men in a recent survey preferred a jacket identified as Du Pont nylon over a jacket of the same brand identified as nylon.)...And Du Pont keeps building this preference through a broad advertising program, including "THE DU PONT SHOW WITH JUNE ALLYSON"...Yes, it makes sense to feature the fibers that help you move goods: Du Pont fibers.

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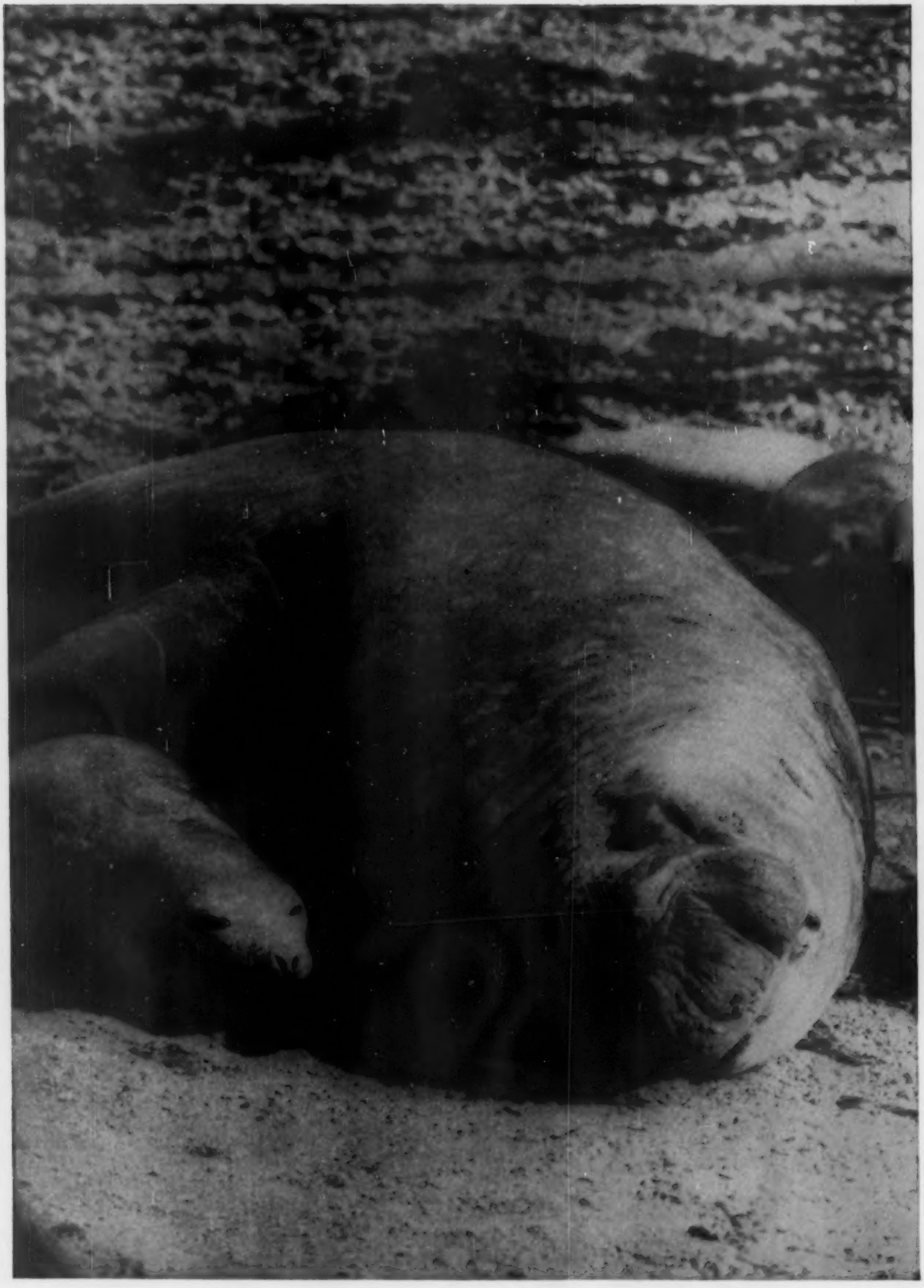

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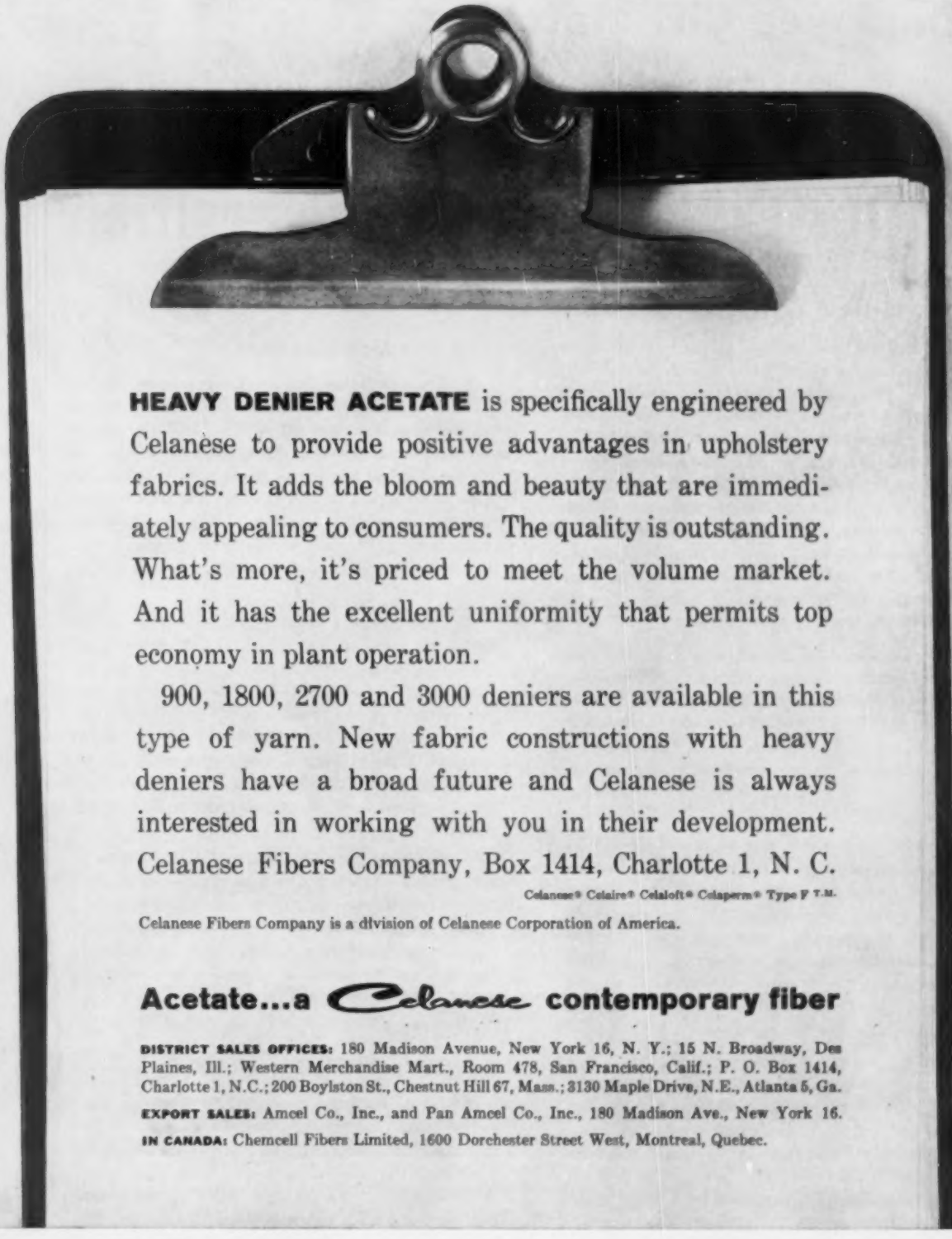

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900, 1800, 2700 and 3000 deniers are available in this type of yarn. New fabric constructions with heavy deniers have a broad future and Celanese is always interested in working with you in their development. Celanese Fibers Company, Box 1414, Charlotte 1, N. C.

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IN CANADA: Chemcell Fibers Limited, 1600 Dorchester Street West, Montreal, Quebec.

Employee Gift Matching

Another Good Way To Help Our Colleges And Universities

The business community continues to make an impressive record in giving badly needed financial help to our colleges and universities. This year the Council for Financial Aid to Education expects that business contributions to higher education will be well over four times their total of about $40 million a decade ago.

If these contributions, which were about $150 million last year, continue to increase at the present rate, they will hit the target of $500 million set for business aid to our colleges and universities in 1970. This is the amount which, the Council calculates, must come from business if these institutions are to have the money to do their job properly a decade hence.

However, it would be a fine thing both for the nation and the business community if that $500 million dollar target were hit well before 1970. This would put us ahead of a schedule (it is a conservative schedule) in getting on top of what remains one of the nation's most crucial problems—that of having its colleges and universities adequately financed which they are very far from being right now.

There is, we believe, one quite simple way by which financial support for higher education by business firms might be considerably speeded up. All that is required is that business firms generally abandon the idea that it is possible for every company to have a program to provide such support that is novel and distinctive, and that this is the only way that interests of prestige and good public relations can be served.

There are nowhere near enough good plans to provide financial help for higher education to equip even a small percentage of our business firms with one that is novel and distinctive. Also **there are a number of very good plans which, so far as we can tell, lose nothing of their value for prestige and good public relations by being used by a large number of companies.**

The Gift Matching Idea

One plan with these attractive characteristics is the plan by which companies match the gifts of their employees to colleges and universities, and now increasingly gifts to independent secondary schools. So far as we can discover the general plan was invented by the General Electric Company, with what it calls its Corporate Alumnus Program. Now, with variations on the same basic design, almost 100 companies have gift matching plans. We at McGraw-Hill are included in this number.

The gift matching plans vary considerably in detail. Some are limited to alumni of the schools to be benefited. In others any employee can participate by making a gift to an eligible institution. There are also variations in the maximum amounts of gifts by individuals and to individual institutions which will be matched. Some companies have "open end" plans; others limit the total to be matched in any one year. All of the plans, however, embody the same central gift matching idea.

When the plan was first launched some college administrators of little faith in the fundamental generosity of the alumni and friends of their schools expressed the fear that if gifts were to be matched they might be made smaller in the first place. The opposing view was that the possibility of having them matched would stimulate more and larger gifts.

Advantages Of Gift Matching

So far as we have been able to discover, the expectation that giving would be stimulated by gift matching has been validated by the experience with the plans. This has been our experience at McGraw-Hill. Some other important virtues of the gift matching programs have been summarized by

LEADERS OF SOME OF THE INSTITUTIONS WHICH HAVE SHARED IN THE McGRAW-HILL EMPLOYEE GIFT MATCHING PROGRAM EXPRESS THEIR VIEWS

"We particularly appreciate the fact that your grant is unrestricted, and can therefore be used for our area of greatest continuing need — the General Education Fund, from which faculty salaries come."

W. Boyd Alexander, Vice President and Dean of the Faculty
Antioch College

"We are grateful, not only for the financial support given to The Cooper Union by your company, but also for the stimulus it has provided our alumni in your employ to make annual gifts to their Alma Mater."

Edwin S. Burdell, President
The Cooper Union

"The gift matching program has a dual advantage. First, it acknowledges and repays a debt of honor to those colleges which, often at great loss to themselves, have trained and educated the men who are now among your personnel. This is most fair and equitable. Secondly, by offering to match up to a given limit the contributions of alumni, you encourage support of their own colleges on the part of graduates, who themselves are so indebted."

President Edward B. Bunn, S. J.
Georgetown University

"Thanks to your doubling of the annual gifts of one of our generous and loyal friends who works with you at McGraw-Hill, we are well on the way toward creating what for us will be an extremely helpful scholarship fund. This would not have been possible without the gift matching program."

C. Adrian Heaton, President
California Baptist Theological Seminary

Ernest T. Stewart, Executive Director of the American Alumni Council (1785 Massachusetts Avenue, N.W., Washington, D.C.) who would be glad to provide detailed information about them, and the names of companies having such plans. Of the gift matching idea he says,

> "*First*—it assures the corporation that its gifts go direct to those colleges and universities which have furnished it with trained manpower.
>
> "*Second*—it places responsibilities for the gifts on the institutions themselves and drives home the point that they must make a real effort with their own alumni.
>
> "*Third*—it leaves the final decision of corporate support basically to the employees."

For many companies which are fearful of complicating their relations with their customers by courting charges of favoritism if they provide direct financial support for any particular school or group of schools, this latter consideration can be of decisive importance.

The gift matching plan also has what for many companies is the very important virtue of being simply and easily administered. Some additional virtues of the gift matching plan, as seen by officers of institutions which have been beneficiaries, are indicated in the box at the top of this page.

Effective And Easily Managed

We at McGraw-Hill are well pleased with our gift matching program. It is a broad program in which all employees and a wide array of colleges and universities, both privately and publicly supported, are eligible to participate. We commend it as an effective and easily managed plan to provide urgently needed financial aid to higher education.

We also urge that business firms adopt this or one of a number of other very good programs of financial aid to higher education* rather than delay in the hope of hitting upon some quite new and distinctive plan. There are very long odds that such delay will prove unavailing. In the meantime our colleges will be losing financial help which it is profoundly in the interest of the business community and the nation to see that they get—and get fast.

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*An earlier editorial in this series dealt with tuition supplements as another good way to help our colleges and universities. Reprints of this editorial are available. So are copies of a "more or less socratic dialog," entitled, **A Business Wrestling with the Problem of Aid to Colleges and Universities.** It was prompted by the efforts of McGraw-Hill to find suitable methods of providing financial aid to higher education.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nation-wide developments. Permission is freely extended to newspapers, groups or individuals to quote or reprint all or parts of the text.

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- **Vibration-free single-unit welded steel frame, completely distortion-free.**
- **Knitting motion actuated by eccentrics and crank levers. No cams, cam rollers or counter cams.**
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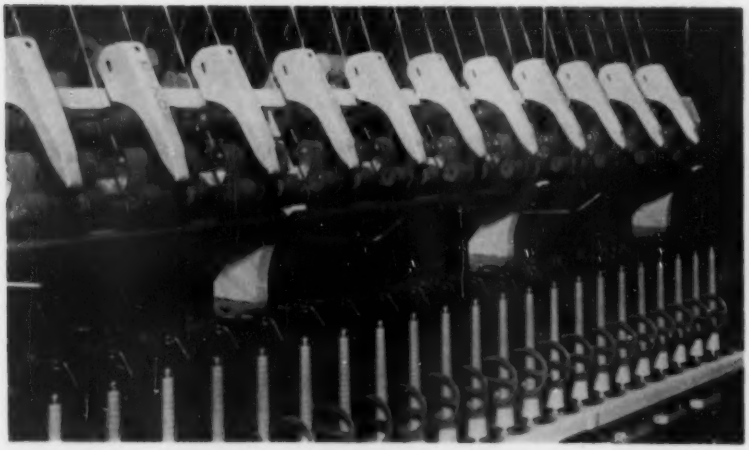


Latest Word in Roll Covers

A new line of top-roll covers and aprons for spinning and roving frames has been introduced by Dixon Corp. This covering material, called Draftex, is available for every make of drafting system.

The cots are manufactured from Buna N synthetic rubber in sizes up to 2¾-inch O.D., and for any length of working surface. The back roll cots have a filler additive to increase drive. The Buna N compound incorporates special agents that resist the generation of static electricity, maintains a clean drafting surface by preventing the development of an oily film, and prevents ends down due to lapping. Various hardnesses are available from the newer soft materials to conventional harder types.

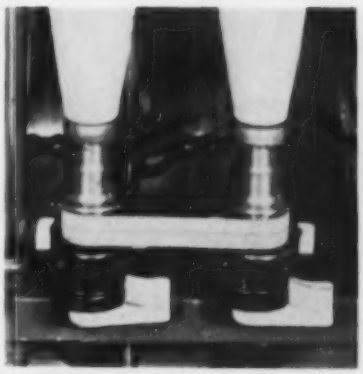
The aprons are available to fit most sizes of single- and double-apron drafting systems. The aprons are produced of a single layer of synthetic rubber, reinforced with high-strength fiber cords, don't stretch in service, and are resilient. They have a smooth finish designed to improve fiber control and give better performance with man-made fibers and blends. **(Circle E-1 on Reader-Service Card)**

This Spindle Brake Clamps On

A durable and easy-to-operate spindle handbrake has been developped by Whitin Machine Works for the Centerbase No. 880 spindle. It is designed for easy installation and is quick acting. It reduces the hazard of bobbin burn and avoids jammed tubes.

The clamp-on brake applies pressure evenly on both sides of the whorl, without vibration. Brake pads can be easily replaced without gluing or riveting. The braking arms, handle, and activating cam are molded from resilient, high-strength plastic.

The brake can be installed in the field to the Centerbase No. 880 spindles, which has the standard thin-edge whorl flanges. It is also applicable to the new Whitin spindles, which have skirt-type lower flanges. This provides a larger braking surface for this hand brake. **(Circle E-2 on Reader-Service Card)**

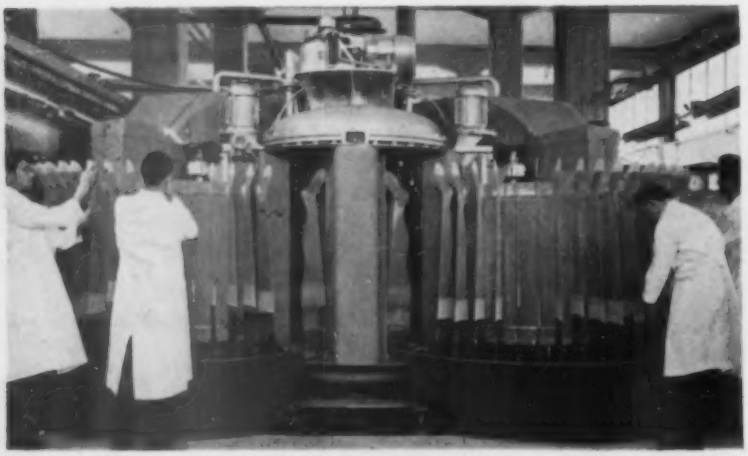


E-3—Stretch controller recently introduced provides accurate control of fabric elongation. This unit can be used for determining and controlling the amount of stretch for any continuous fabric processing range. The instrument is connected electrically to the feed rolls and delivery rolls. Stretch can be controlled by adjusting the speed of either set of rolls. The instrument also indicates the speed of the operation in yards per minute, as well as minus stretch. Seminole Div., Airpax Electronics Inc.

E-4—Manual motor switch is lint tight with compact enclosure. The switch is sealed against lint entry by closed-cell rubber gasketing. It is designed to start and provide overload protection for a.c. and d.c. motors. The switch is rated to handle 5 hp., single phase, 440-550 volts a.c.; 7½ hp. polyphase, 440-550 volts a.c.; and 2 hp., 230 volts d.c. The overload relays must be reset once an overload occurs. Spring loaded movable contacts assure a constant pressure. Allis-Chalmers Mfg. Co.

E-5—Dyeing machine, rotating type, combines two-machine operation into one. Variable speed drive provides range of 6 to 25 rpm. Adjustable timer allows for reversal adjustments. This unit offers flexibility without handling between operations. Variable speed drive provides the speed for additional agitators required in washing. The unit is constructed with outboard bearings and Type 304 stainless steel. It is also available with Type 316 stainless steel. Venango Engineering Co.

For more information on any of these items, circle appropriate number on the Reader Service Card, next to the back cover.



One-Step Dyeing, Finishing

This machine combines the dyeing and boarding of stockings into one continuous, automatically controlled process. The unit, called Color-plast, is manufactured by the Eugen Bellmann Gmbh. It consists of two circular board tracks that meet at one central dyeing chamber. Each track has its own drying chamber and loading and unloading section. The tracks have three board packets of 30 boards each for a total of 180 boards per machine.

The boards are widely spaced at the loading and unloading section so these operations can be performed easily. A visual inspection is made of each stocking. When the boards move into the dyeing and drying sections they close up but do not touch. The high-pressure chamber dyes 60 stockings at once, 30 from each board track. The dye bath is contained in a separate tank and fed to the chamber where the dyeing is done by sprays. The machine is available with two dye tanks so that a new dye formulation can be mixed without stopping the unit.

The machine is fully automatic and electrically controlled from a switch box. Shades are influenced by the dye bath, the operating temperature, the time cycle, and the dye formula. Once the machine settings have been determined for a given dye formula, this shade can be reproduced from batch to batch. The average dyeing time is two minutes. With 15 denier stockings 400-450 dozen can be dyed in an 8-hour shift. It is also possible to dye wool and cotton. **(Circle E-6 on Reader-Service Card)**

Strip 8 Bobbins at Once

A new bobbin stripper, called PSC Jet Stripper, will remove roving from eight bobbins simultaneously at rates up to 200 yards per minute. This machine is manufactured by the Precision Gear Div., Perfecting Service Co. Operating on compressed air, at low volume, the unit will remove roving from 8 x 4-in. to 14 x 7-in. bobbins without breaking the roving. A bobbin regulator permits adjusting the air pressure to give desired stripping speed for various hanks of roving. The roving is removed, without damage to the bobbin, in a fluffy condition, quite suitable for immediate reprocessing.

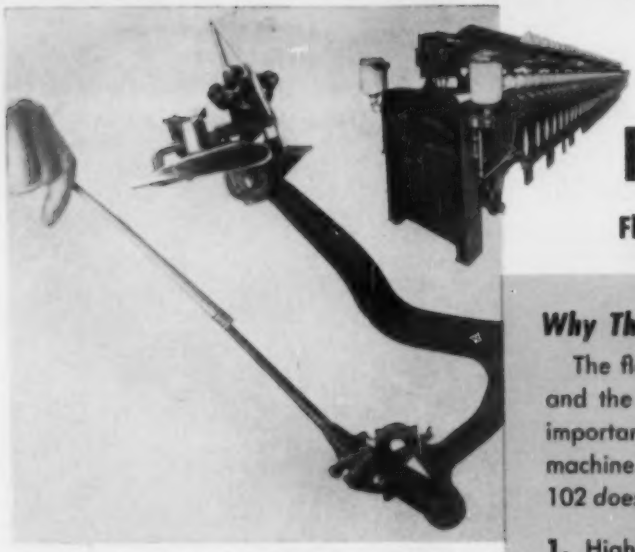
The stripper weighs only 50 pounds. The unit is easily moved to any spot in the card room. Because of its simplicity of operation it can be operated by the roving tender or others as a fill-in-job. The bobbin stripper is a complete self-contained unit which includes 8 Casablanca type bobbin holders, compressed air regulator, needle valve, quick-disconnect couplings, and 8 feet of air hose.

It operates from any suitable air supply and feeds the stripped-off roving into a portable truck or drum container. **(Circle E-7 on Reader-Service Card)**

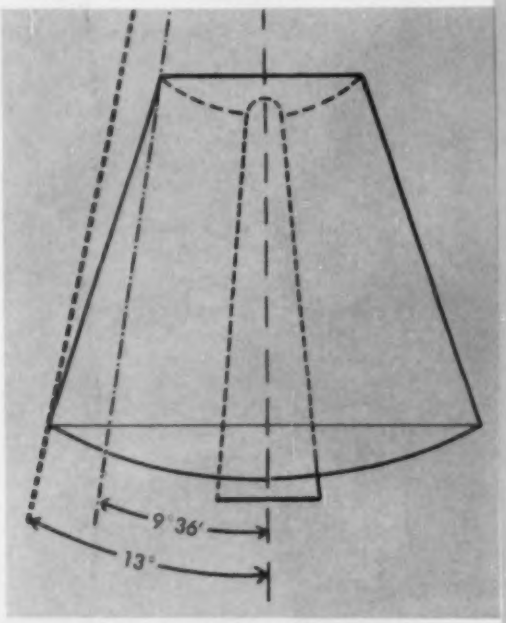
E-8—Tension meter called Saxl features a mechanical 3-roller shunt and low-inertia pulleys on precision ball bearings. It is quickly clipped onto yarns moving at high speed. Because of the shunt arrangement the yarn is shortened very little and the meter gives accurate readings even when the free distance of travel is short.

The unit is operated by a trigger. When the trigger is released the yarn is in the proper test positions regardless of the way the operator holds the meter. Tension is read from a dial facing the observer. The meter has extended resolution on the lower end of the scale, where most of the critical tensions are recorded. The scale is 12½ inches in circumference. Readings can be taken on the second revolution of the pointer.

The instrument's damping can be increased to average out excessive oscillations of tension. It is also available with cylindrical rollers to check tension. Tensitron, Inc.



TILTING BOBBIN PIN FOR SOFT TWIST COPS WHERE SINGLE BALLOON AND MINIMUM TENSION ARE REQUIRED



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SLUB CATCHING AND WAXING ATTACHMENT

FOSTER MODEL 102

Flexibility — Economy — Quality Winding

Why This Machine Produces a Quality Package

The flexibility (adaptability to changing conditions) and the economy of the Foster Model 102 are very important, but they would be of far less value if the machine did not produce a quality package. The Model 102 does produce a quality package and here's why: —

1. Highly efficient slub catchers automatically inspect the yarn.
2. The 13° convex base cone promotes free delivery on the knitting machine — prevents underwinding and "nipitis".
3. Yarn conditioning and waxing attachments give proper softness and lubrication to yarn.
4. Ribbon breaker prevents ribbon wind.
5. Idler shell on winding drum prevents burning or chafing of yarn at nose of cone. Hairline fit prevents cutting.
6. Adjustable angle of wind assures properly formed packages which hold their shape in transit.
7. Even the softest twist yarns can be wound with minimum breakage, because they can be wound with no tension, if necessary.

Learn also about the flexibility and economy features of the Model 102. Write for Bulletin A-95-A.

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

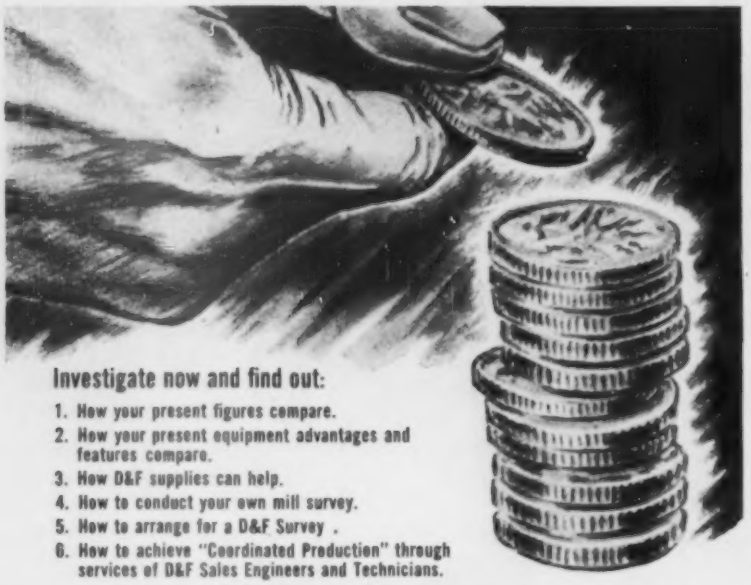
Westfield, Massachusetts, U.S.A.

SOUTHERN OFFICE — Johnston Bldg., Charlotte, N. C. CANADIAN REPRESENTATIVE — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario - EUROPEAN REPRESENTATIVE — Moschamp Textile Machinery (Sales) Limited, Elder Works, Wellington Road, Ashton-under-Lyne, Lancashire, England.

A Member of American Textile Machinery Association

QUESTION...

How do you stack up... in yarn production and quality?



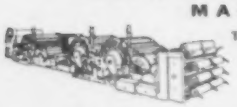
Investigate now and find out:

1. How your present figures compare.
2. How your present equipment advantages and features compare.
3. How D&F supplies can help.
4. How to conduct your own mill survey.
5. How to arrange for a D&F Survey .
6. How to achieve "Coordinated Production" through services of D&F Sales Engineers and Technicians.

Work hand-in-hand With "Coordinated Production" in the woolen system.

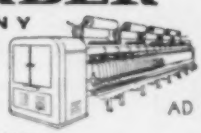
DAVIS & FURBER

MACHINE COMPANY



TEXTILE MACHINERY DESIGNERS AND MANUFACTURERS

North Andover, Mass.
Charlotte, North Carolina



AD 14-5

Member — American Textile Machinery Association

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY, MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS, SPARE PARTS. • TECHNICAL SERVICE & CONSULTATION

Equipment and Supply News

. . . *Begins on page* 183

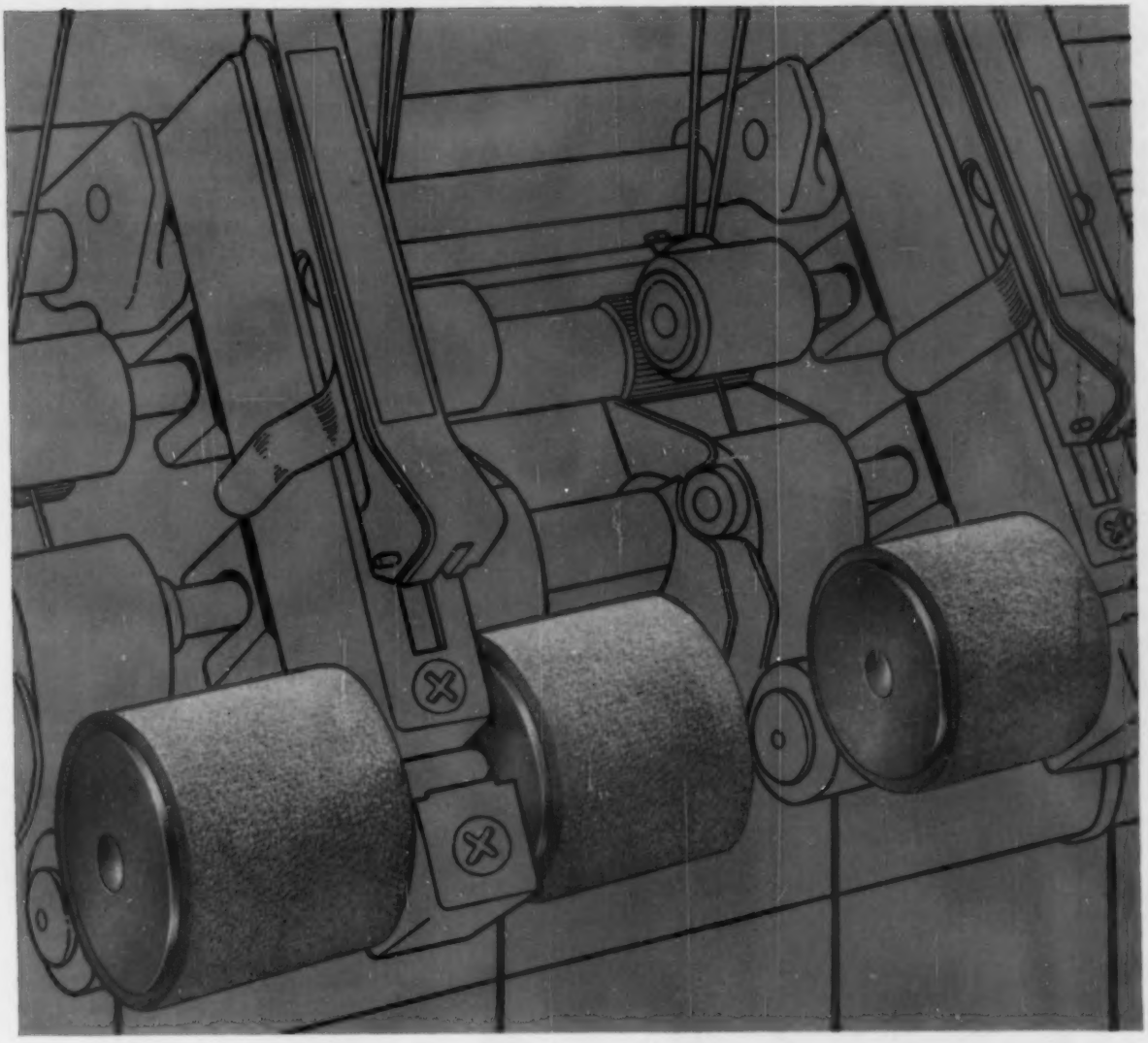
For more information on any of these items, circle appropriate number on the Reader Service Card, next to the back cover.

E-9—Precision hygrometer is accurate within 2% at temperature up to 230 F. Use of the Durotherm element eliminates need for regenerations in moist air. Instrument has large silvered metal dial, graduated in single percentages for direct readings. Edroy Products Co.

E-10—Lift-hall check valve has ratings to 200 pounds on steam and 400 pounds cold. It is available in sizes ¼ through 1 inch, is recommended for viscous-fluid lines. Closes faster against back pressure than valves with other types of discs. Fairbanks Co.

E-11—Aircooled condensers, 8- to 85-ton capacity in single units, are now available for air conditioning and refrigeration. Horizontal and vertical units come in 13 sizes to meet all engineering needs, including multiple installations. Automatic head pressure controls, called Seasontrols, modulate the condenser capacity in accordance with the weather for proper operation at all times. McQuay, Inc.

Turn to page 188



These clearer covers can save you 50%

Better cleaning . . . faster picking . . . much longer life: you get all these money-saving benefits when you switch to Accotex NK-770, an expanded-rubber cover for revolving clearers.

NK-770 covers clean efficiently. In many mills, these covers make it possible to lengthen picking intervals and reduce picking crews. NK-770 covers cost no more than conventional materials; and indications are that they will last at least three times as long.

All these economies can add up to a 50% saving in clearer picking and maintenance costs. Your Armstrong man will help you set up a test of NK-770 covers on your frames. Call him or write Armstrong Cork Co., 6909 Dauphin St., Lancaster, Pa.

Armstrong TEXTILE PRODUCTS

1860-1960 Beginning our second century of progress

Bondaron, "the leather with the hair on", is the world's best and strongest textile leather.

SKEPTICAL? But don't take our word for it! Send for a free sample of Bondaron leather and apply your own torture tests . . . you'll be convinced. Bondaron won't stretch under exposure to humidity—won't crack under excessive dryness. Bondaron has high tensile strength — great gripping power. It's durable and pliable — with minimum stretch.

Check Bond's complete line of textile loom leathers that have outperformed all comparable products for almost three-fourths of a century. Including:

• Round and flat leather belting • check straps • lug straps • jack straps • loom pickers and other loom accessories.

write for free sample of **BONDARON® LEATHER AND TEST IT YOURSELF.**

NAME..... COMPANY.....

ADDRESS.....

Bond **CHARLES BOND COMPANY**

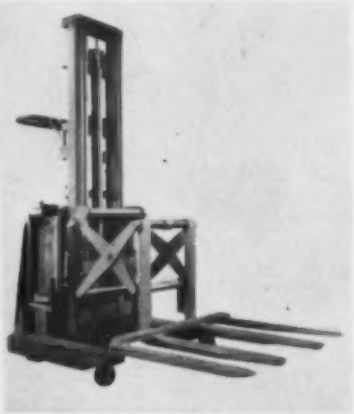
617-23 ARCH STREET • PHILADELPHIA 6, PENNSYLVANIA

Equipment and Supply News

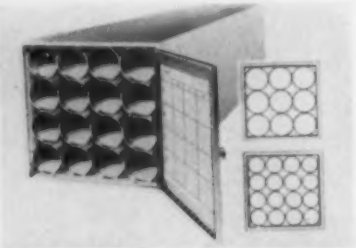
. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-12—Machine mounts for leveling small machines are the latest addition to the Unisorb line. The LR-200 Series was developed for office machinery, duplicators, air conditioners, and laboratory equipment. Mounts will reduce transmitted vibration up to 85%. Outstanding features are precise leveling and simple installation. Unisorb is made in many thicknesses and densities. Unisorb.



E-13—A side-travelling, narrow-aisle, reach-type truck equipped with special slip-on forks is designed to handle long, unwieldy loads in narrow aisles. It can also be used as a standard narrow-aisle truck by removing the fork attachment. Lewis-Shepard Products, Inc.

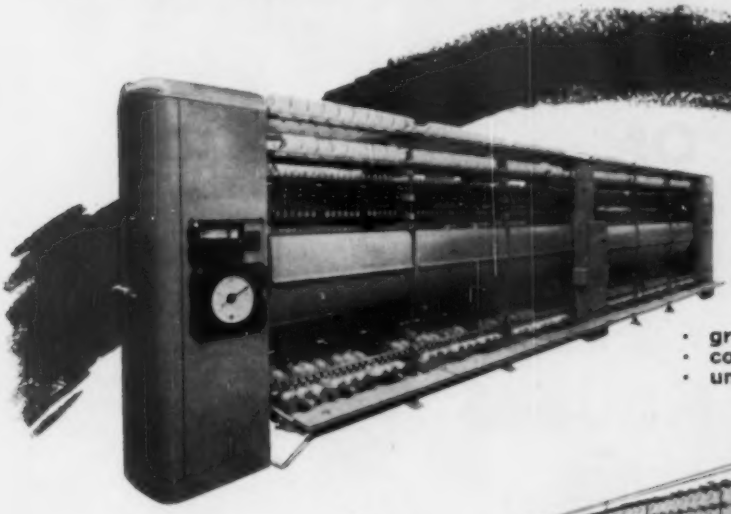


E-14—Staktube makes rolled pattern filing easier and faster. The 15 $\frac{5}{16}$-in. square, steel-encased cabinets are equipped with 16 or 9 steel-rimmed tubes and are available in 48- and 60-in. lengths. Index record is kept on the inside of the door. Photo Marker Corp.

Turn to page 190

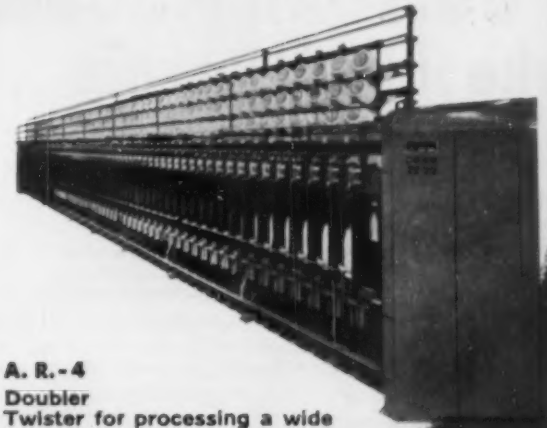
Insure UNIFORM quality

From the supply package to the finished cone. These 3 machines produce the finest and most uniform quality of crimped thermoplastic yarns for weaving, knitting, or tricot requirements.

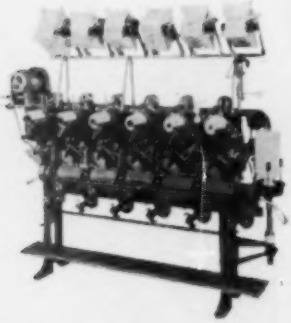


F. T. MACHINE *

- greater elasticity
- complete crimp retention
- uniform dye affinity



A. R.-4
Doubler
Twister for processing a wide range of various yarns.



M. WINDER
with special attachment
for building bobbins of controlled density.

** Sold under licence in USA, Mexico and Canada by Willing.*

60-ITW

ATELIERS ROANNAIS
de Constructions Textiles
ROANNE - Loire - FRANCE
Tel. 45-81-82-83 et 48-60 - Cable : Constructiles
Telex. N° 31.986 - ARCTEX - ROANNE

CIRCLE 189 ON READER SERVICE CARD 189

In Every Textile Mill . . .

UNISORB MOUNTS Make the Difference

. . . In Vibration Control . . . In Machine Performance . . . In Simplified Installation

These are the critical factors important to the efficient and low-cost operation of every textile mill.

- Unisorb reduces transmitted vibration and noise up to 85%.
- Machinery can be run at maximum speeds.
- Unisorb keeps machines precisely level, reduces wear and tear on moving parts.
- Unisorb holds machinery without lag bolts or screws, eliminates tricky spotting, and saves up to 80% of installation time.
- Unisorb allows complete flexibility in production lines, machinery can be quickly and easily moved at any time.
- Installation cost is greatly reduced, saving in time, material and labor — actually more than pays for the cost of Unisorb.

GIVE YOUR MILL OPERATIONS THE ADVANTAGE OF UNISORB MOUNTING!

Unisorb is available in a wide variety of densities and thicknesses, and can be readily identified by its red center and brand mark. For information on loading ranges, and application, or to place an order for a specific machine, contact your Unisorb Distributor or write direct.

INDUSTRIAL SUPPLY CO., CLINTON, S.C. • TEXTILE SUPPLY CO., DALLAS, TEXAS

UNISORB

UNISORB 213 SOUTH STREET, BOSTON 11, MASSACHUSETTS
Division of The FELTERS Company
Sales Offices in New York, N.Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Los Angeles, Calif.

Please send me a Unisorb Sample and Free Book.

Name.....

Company.....

Address.....

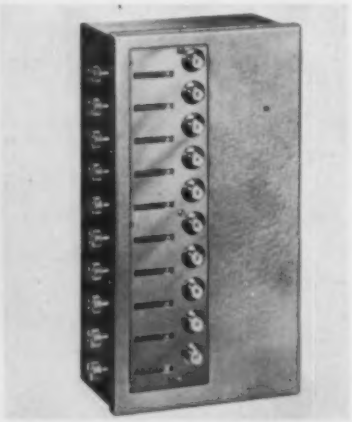
City.....Zone.....State.....

FCB-60

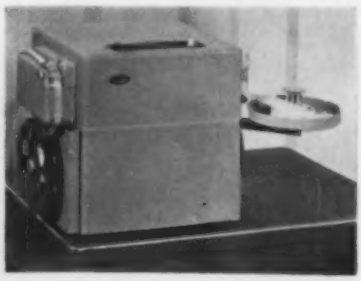
Equipment and Supply News

. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.



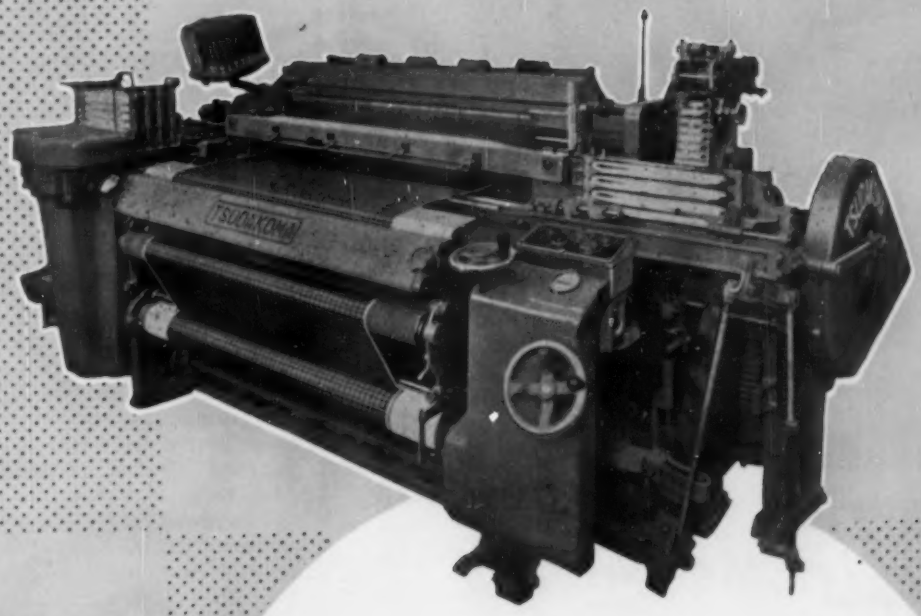
E-15—Time-utilization meter panel is a new aid to cost-concerned management. Ten individual time meters, each with pilot light, are housed in one 7x13-in. steel case. Using safe, low 26 volts, ten machines can be monitored at distances of 5000 feet. They may be connected to show production time, idle time. and down-for-service time. They can be used to determine wages, business schedules, and incentives. Signal light is visible over 100 feet in daylight. Bell-wire installation means low-cost wiring. Gorrell & Gorrell.



E-16—Code converter converts one type of punched-tape coding system to another and operates with different but allied equipment. It converts 5-, 6-, 7-, or 8-channel code systems one to the other, automatically. Tapes are read at 1180 codes per minute on tapes of $\frac{1}{4}$ to 1-in. width. Unit can be obtained with special punch and reader that permit tapes to be converted for teletype operation. Friden, Inc.

. . . *Turn to page* 192

Tsudakoma



ツダコマ

Automatic Loom and Ordinary Loom

Dobby

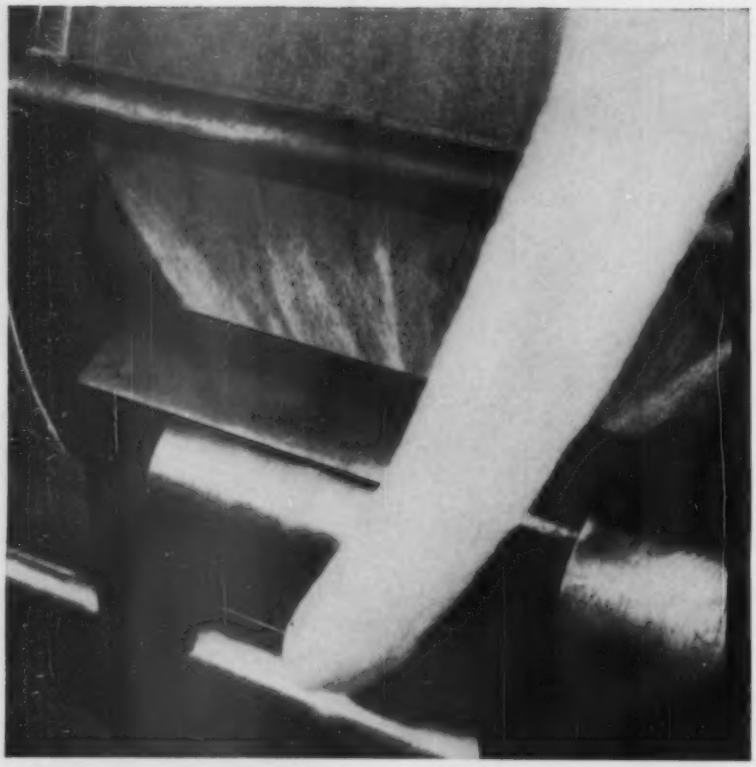
Preparatory Machine

Throwing Machine
High Speed Bobbin Winder
Doubling Machine
High Speed Bottle Winder
High Speed Warping Slasher
High Speed Sectional Warper
High Speed Magazine Creel

TSUDAKOMA INDUSTRIAL CO., LTD.

Head Office : Kanazawa, Japan
Branch Office : Tokyo · Osaka

CIRCLE 191 ON READER SERVICE CARD



Booth METALLIC

Super Precision Metallic Wire

Years of investigation, research and mill study have resulted in the selection and development of Booth Metallic.

Booth studied all metallic wire available the world over, including types produced in Russia. In leading foreign mills with outstanding production records—Graf metallic wire from Switzerland was always the first choice.

Modifying this wire to the needs of American mills, Booth now offers a wire that is milled rather than punched, providing absolute uniformity of tooth shape and height with complete freedom from burrs. Even temper of Booth Metallic eliminates broken teeth and the super hard points prevent premature dulling. This superior wire costs no more than other makes.

A Booth representative can help you achieve the best in carding performance.

See us at The Greenville Show • Exhibit #464

QUALITY CARD CLOTHING SINCE 1892

BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA. 34, PA.

Booth

Sales Offices: Charlotte, N.C.—Richard Hurley • Philadelphia, Pa.—Norman F. Bush—REgent 9-8989
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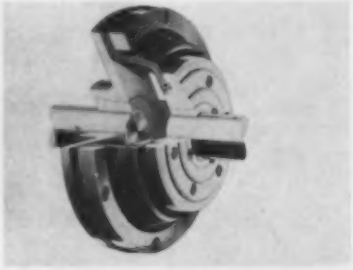
Equipment and Supply News

. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader Service Card, next to the back cover.

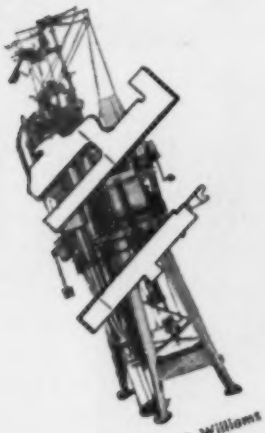
E-17—Spiral bevel speed reducers are designed to take up less floor space than parallel or concentric shaft reducers. Right-angle shaft arrangement makes its possible to place the prime mover alongside the driven equipment. Energy loss for single reduction is 2%; for triple reduction, 4%. With this equipment, in many applications the size of the motor and controls may be reduced. Hewitt-Robins Inc.

E-18—Extruded plastic sheet (chlorinated polyether, called "Penton") now comes in extra-wide (48-in.) sheets for lining tanks, vessels, and other equipment. The wide sheet cuts application cost, reduces the number of seams, cuts welding time and expense, and speeds installations. Penton sheets provide corrosion and abrasion resistance for many kinds of equipment. They may be applied to new or existing equipment in the field. Standard sheet thicknesses available come in two sizes—0.040 and 0.062 inch. National Vulcanized Fibre Co.

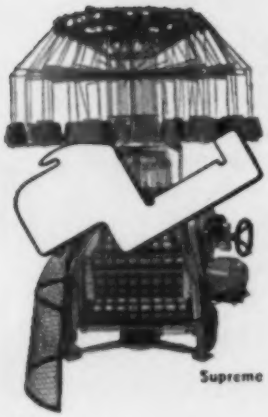


E-19—Cushion-type couplings for high-speed or high-torque applications feature a new pan-shaped rubber flexing element. These couplings called Para-flex are recommended for angular and parallel shaft misalignments and end float, to absorb torsional vibration, and to cushion shock loads. They are designed for speeds up to 5230 rpm., are equally efficient on low-speed applications where torque requirements are high. Taper-Lock bushings, for quick and easy mounting of shafts, are used on both the flange and the disc. Dodge Mfg. Corp.

. . . *Turn to page* 194



Scott & Williams



Supreme

Tompkins

Excellence Doesn't "Happen" — It is *PRODUCED*

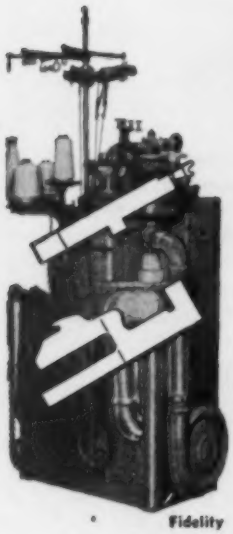
Here at IVES, we never leave anything to chance. For 89 years, the finest steel, expert craftsmanship and infinite care have gone into the manufacture of every needle and knitting machine part that has left this plant.

That is why IVES' products have always been known for their excellence in design, workmanship, and wearability.

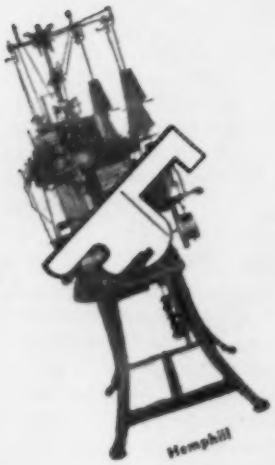
IVES' replacement parts are tailored to fit exactly the machines for which they are intended:

Supreme • Fidelity • Tompkins • Kidde
Cooper • Brinton • Wildman • Crane
Banner • Scott & Williams • Bentley • Reiner

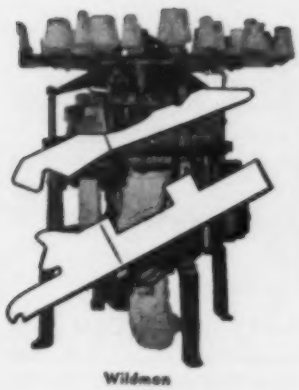
THE LOYAL T. IVES COMPANY, INC.
NEW BRUNSWICK, N.J.



Fidelity



Hemphill



Wildman

Bentley

CIRCLE 193 ON READER SERVICE CARD

HERE'S WHY LESTERSHIRE HAS A REPUTATION FOR BOBBIN EXCELLENCE . . .

CHECK POINT! For close-tolerance sizing of Fibre Heads. Checking for thickness, diameter, proper positioning of screw circles, and screw holes for size and countersink angle.

CHECK POINT! Constant checking to insure proper seating of anchor screws and proper installation of felt washers. All Lestershire Heads are in proper plane to insure concentricity.

CHECK POINT! Every Lestershire Bobbin receives a final dimensional check plus trial running on customers own spindle to guarantee high Lestershire quality before shipping.

CHECK POINT! Checking barrel length insures traverse accuracy between heads. Variations at this point can cause serious running trouble.

Many times you can't see it, often you can't feel it, sometimes you can't even measure it, but that extra ingredient of quality is built into every Lestershire Bobbin and it doesn't cost you one cent more! Expert craftsmanship combined with consistent quality control from materials through every fabricating step. This is your assurance of design accuracy, bobbin concentricity, true balance and over-all bobbin perfection in bobbin, after bobbin, after bobbin.

Having trouble with bobbins? Next time try Lestershire. Write for complete Bobbin Catalog direct to Dept. BB-9.

LESTERSHIRE SPOOL DIVISION

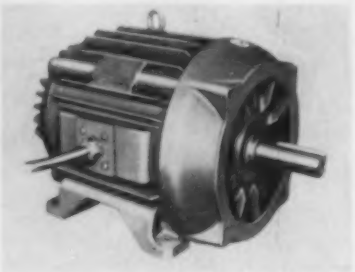
NATIONAL VULCANIZED FIBRE CO.

WILMINGTON 99, DEL. • *Plant:* 140 Baldwin St., Johnson City, N.Y. • *In the south:* Odell Mill Supply Co., Greensboro, N. C.; Greenville Textile Supply Co., Greenville, S. C.

Equipment & Supply News

. . . *Begins on page* 183

E-20—Environmental cabinets for laboratory-scale testing have no contacts, no switches, no moving parts, no auxiliary devices to wear, burn, or arc. The cabinets have built-in over-temperature protection with temperature ranges from 32 F. to 600 F. Air velocity is adjustable to 250 fpm. Four sizes are available, with inside dimensions ranging from 20x18x20 to 48x24x36 inches. Blue M Electric Co.



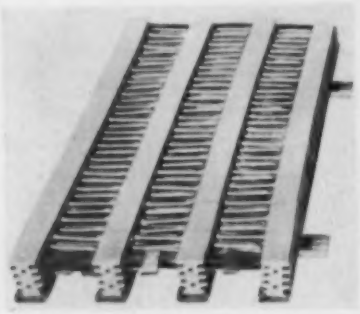
E-21—Textile motor Type GZQ has been redesigned so that the fan can be mounted on either end by plant personnel. A protective guard is used when the fan is on the front end. The motor has prelubricated, single-row ball bearings. Allis-Chalmers Mfg. Co.

E-22—Furane plastic pipe resists acids, alkalies, and solvents at temperatures up to 300 F. and pressures up to 150 psig. It's easy to install, does not sag or soften with heat. Comes in 15-ft. lengths, 7 sizes from 2- to 12-in. I.D. Hooker Chemical Co.

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-23—Automatic vacuum controller features continuous reading and automatic reset of the control relay. The control pointer may be set at any pressure desired within the control range. Sensitivity is within 1% of the setting. Unit provides automation, control, alarm, and protection to vacuum equipment. It is available in four ranges from 0.2 micron Hg through 200 mm. Hastings-Raydist, Inc.

E-24—Elastic attaching machine, Model 812-C-19-P is for flat elastic. An attachment used with the differential feed mechanism in the machine overcomes the tension on the elastic, insuring correct sizes. A puller mounted directly behind the machine presses the overlock seam flat. An adjustable speed control enables the operator to synchronize the puller with the sewing-machine speed. Willcox & Gibbs.



E-25—Folded and formed heating rack is offered in one-, two-, or three-tier design. The units are primarily designed to serve as a source for natural and forced convection heating with frame temperature ranges to 1100 F., 1350 F., and 1850 F. Trent Inc.

turn to page 196

WHEN THE RECEPTACLES ARE KENNETT, PROCESSING COSTS GO DOWN! . . .

The reasons are simple. Kennett Receptacles handle delicate yarns and fabrics more gently—cut loss from damaged yarns and fabrics. Kennett Receptacles last longer—save on replacement costs. And Kennett Receptacles are easier to handle—speed your processing.

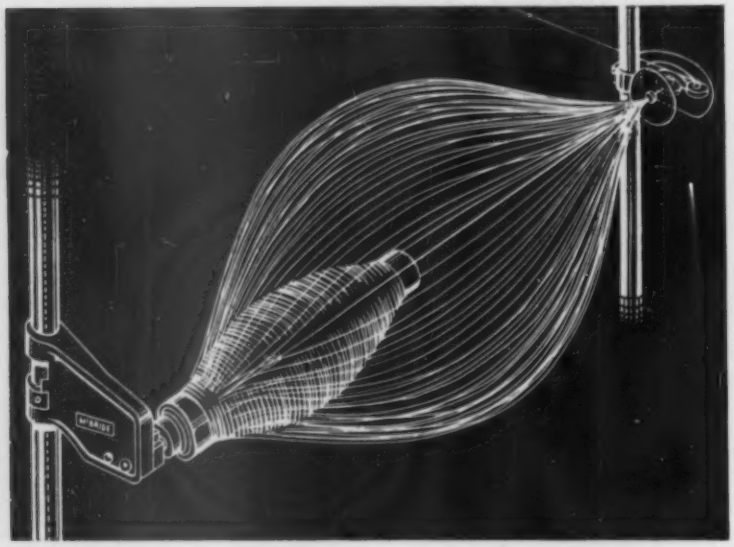
Kennett Receptacles can be slammed, banged, dropped and manhandled in a mill for years. Yet their glossy-smooth surface doesn't crack, splint, crush or splinter. They're made of tough, lightweight National Vulcanized Fibre, a *plastic* that has never been equalled for containers in the textile industry.

Standard Kennett Receptacles are available in a huge range of styles and sizes, covering every ordinary need in textile processing. Special requirements are often filled with only a slight modification of a basic Kennett style. And all Kennett products are backed by National's years of experience and proved dependability. For full information contact your nearest National sales office. Or write direct for our full line folder. Address Dept. BB-7.

KENNETT
RECEPTACLES BY
NATIONAL
VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

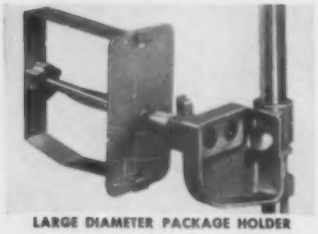
CIRCLE 195 ON READER SERVICE CARD

BE ON TARGET WITH McBRIDE

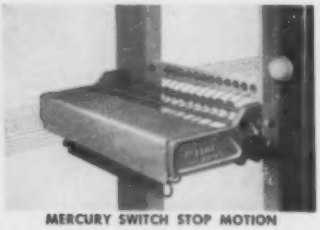


HEAVY DUTY CREEL ARMS

UNIVERSAL CONE HOLDER



LARGE DIAMETER PACKAGE HOLDER



MERCURY SWITCH STOP MOTION

Are your creel arms overloaded? Have you a problem reaching the target (entrance eye) on your tensions? If so you are losing warping efficiency. McBride's heavy duty package arm is designed specifically to correct this situation!

No Sag — even the largest packages stay straight on target for accurate over end draw off.

Fast Change — arm swings back out of way for package change, no interference with ballooning yarn.

McBride swing arm assemblies are made to fit all packages.

Instant changeover with McBride Quik change cone and large diameter package holders.

Complete new creels or fittings to modernize your existing creels.

Write today for our latest catalog.

LET McBRIDE STUDY YOUR WARPING SITUATION. YOU MIGHT BE SURPRISED WITH THE COSTS YOU CAN SAVE, THE IMPROVED QUALITY IN THE WARPS YOU PRODUCE.

CREELS *FOR EVERY PURPOSE*, CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.

Complete engineering service is part of every McBride installation.

McBRIDE COTTMAN AVE. & WISSINOMING ST.
PHILADELPHIA 35, PENNSYLVANIA
In Canada: Hugh Williams & Co., 27 Wellington St. E. Toronto 1, Ontario

Equipment and Supply News

. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

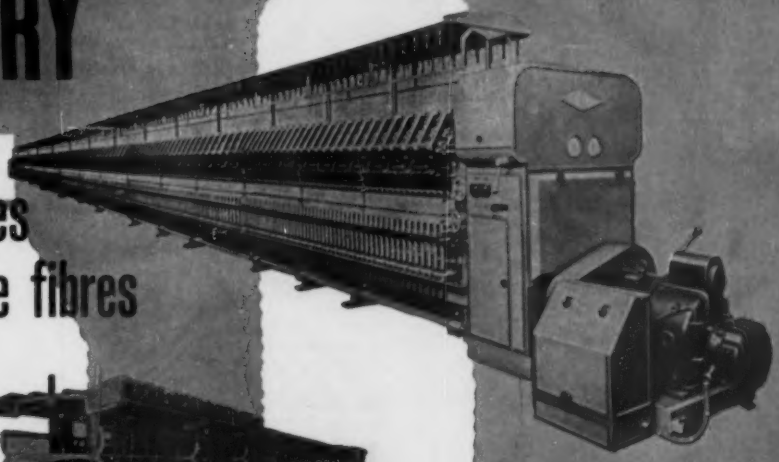
E-26—Pillow-block and flange bearings feature a lip seal for improved retention of lubricant and exclusion of dirt, plus an eccentric collar lock. The bearings are available in a range of shaft sizes from ½ to 1$\frac{3}{16}$ inch. Hoover Ball & Bearing Co.

E-27—Rider-type power sweeper, Model CHD-36, is designed to withstand punishment of around the clock use. The unit sweeps a 36-in. swath. If equipped with optional side brooms it will cover up to a 58-in. swatch. The sweeper has a 66-in. turning radius. With 15-hp., 4-cylinder gasoline engine, there is plenty of power for inclined ramps Traveling at 6 mph. it can sweep up to 100,000 square feet of floor area per hour. The debris hopper is dumped hydraulically and has a 1150-lb. capacity. Clarke Floor Machine Co.

Turn to page 198

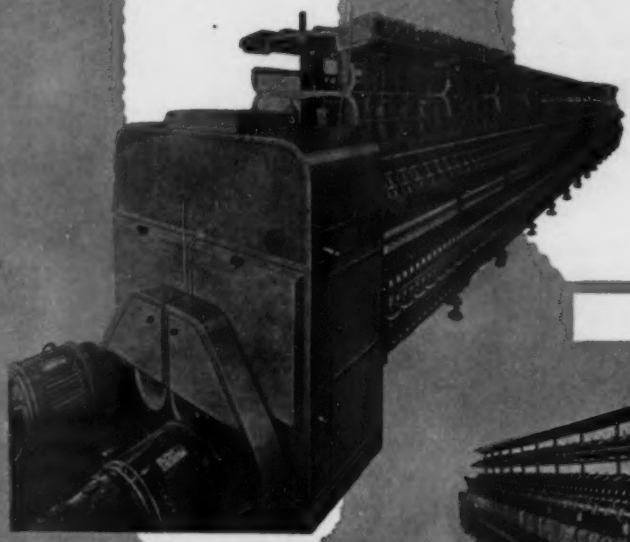
MACHINES FOR THE TEXTILE INDUSTRY

roller spindles
for all textile fibres



Cotton ring spinning frame

Ringtwisting frame for carded wool



Wool ring spinning frame

COGNE

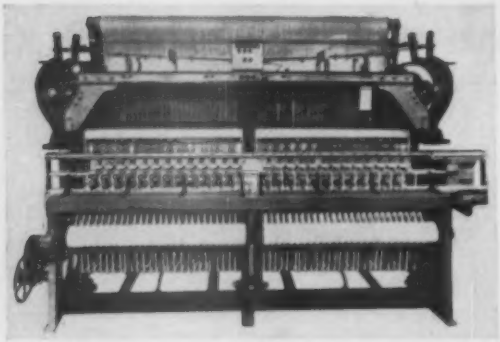
ITALY
TORINO
via s. quintino 28

high quality special steels

See These FLETCHER 1960 MODELS In Production

BOOTH 807 SOUTHERN TEXTILE EXPOSITION

The New Fletcher MULTI-FAB High Speed Automatic Loom



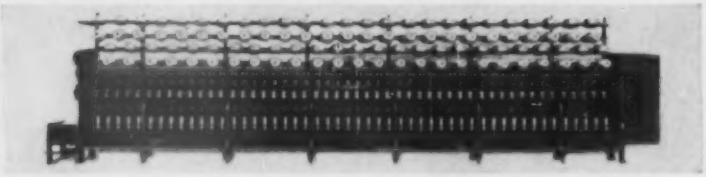
9 foot loom

built for maximum production of quality narrow fabrics

300 picks a minute For light and medium fabrics,

- **ribbons**
- **tapes**
- **elastic**
- **glass**

Fletcher MASTER DUPLEX DOUBLER-TWISTER



New, big sturdy precision-built machine with ring size 4¼"–5" has speeds up to 9,000 RPM. Twists up to 8 ends. New special feed roll attachments for making novelty yarns of glass, nylon and other synthetic and natural fibers.
Three type packages; conventional 2-headed, tapered top and tapered at both ends.

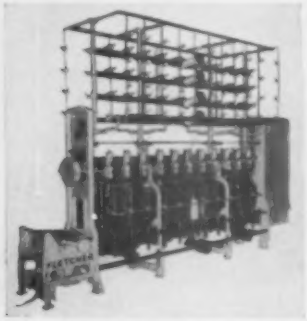
Provides the ultimate in flexibility on all yarns, synthetic or natural.
Gives you larger yarn packages for high-speed, tension-free delivery.

POWER-FAB HIGH SPEED Automatic Loom

5 foot loom • 54 inch traverse warp beams • Quills to 11" diameter heads • 250 picks per minute for type I to type IV government web, elastics, plastic webbing • 300 picks per minute for light fabrics, ribbons, tapes and glass.

See The NEW 1960 5-Foot HIGH-SPEED ALL-PURPOSE ELASTIC WEB LOOM

Can be converted from elastic to non-elastic in a few hours. 250 picks per minute.



The BIG 5 POUND PACKAGE FLETCHER JUMBO DUPLEX DOUBLER TWISTER

5 pounds of Continuous Twisted and Doubled High Quality Woolen-Worsted, Textured, Synthetic and Cotton Yarns.
Bottle Bobbin, Straight or Taper packages. 22-spindle and 72-spindle 6" ring, 9-inch and 10-inch traverse.

FLETCHER INDUSTRIES

Hasbrook Ave. & Beecher St., Cheltenham, Pa.

FLETCHER INDUSTRIES
Turner Div., STATESVILLE, N. C.

FLETCHER SOUTHERN
SOUTHERN PINES, N. C.

Equipment & Supply News

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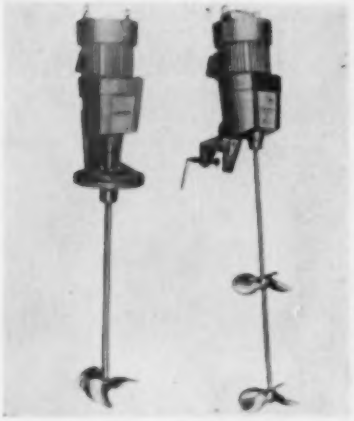
E-28—Industrial radiant heater engineered for quick warm-up and cool-off reaches full heating capacity of 800 to 850 F. within three minutes. Triple-reflector system directs 85 to 90% of the available radiation on the work. The heater is framed in steel and equipped with junction box, leads, and mounting hangers. Units can be interlocked in parallel, eliminating cold-spot areas. Corning Glass Works.

E-29—Pocket magnifier with built-in graticule folds into a neat rectangle 2⅛ by $1\frac{7}{16}$ by $\frac{9}{16}$ inches. The micrometer, which is glass, is mounted in the base of a low-powered folding magnifier. The viewing field is 1 square inch. Ideal for textile use. Graticules Ltd.

E-30—Heavy-duty tensioner has a self-energized feed wheel. It takes ¾- to 1¼-in. waxed, painted or coated strapping direct from the coil, saving a foot or more of strap every time it is used. The unit weighs only six pounds. Signode Steel Strapping Co.

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-31—Compact starter, Size 00, has been developed for low-horsepower jobs. It is rated for up to 2-hp., 440/550 volts, 3-phase service. It features easy inspection and maintenance, straight-through wiring, pressure-wire terminals, and overload relays. It is available either open or in NEMA Type 1 enclosure. Pushbutton or selector switch is optional, as is the overload relay. Square D Co.



E-32—Portable mixers of propeller type are available in sizes ranging from ⅛ to 3 hp. Direct-drive models come with speeds of 1750 and 1150 rpm.; gear-drive models, 350 rpm. The chuck is positive drive and its location is always above the fluid level of the mixing tank. Both portable and fixed mounting mixers are equipped with single or dual super-pitch propellers. Mixing Equipment Co., Inc.

Turn to page 200

"Styles change fast, but

we're never caught short

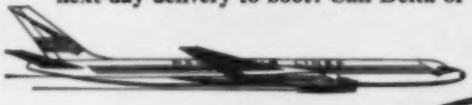
thanks to Delta Air Freight"

Florida Fashions Co. (Orlando, Florida) keeps abreast of style changes by supplying its far away outlets on a 24-hour basis and avoids overstocking.

"Even the sudden exit of the sack dress didn't catch us overstocked," reports M. C. Albrecht, Vice President Operations. "We use Delta Air Freight five days a week to meet the demand for new styles, so we don't have to risk carrying large inventories. We have expanded our marketing area, too, competing in places accessible to us *only* by Delta Air Freight."

Profit from Delta's BIG PLUS

Delta operates all-cargo flights and in addition carries freight on every passenger flight, including Jets, throughout the richest half of the U.S.A. Delta cuts a dozen hidden costs of surface shipping for most every product under the sun . . . gives you next-day delivery to boot! Call Delta or write:



Delta all-cargo flights serve
New York • Philadelphia
Charlotte • Chicago • Cincinnati
Atlanta • New Orleans • Houston
Dallas • Miami • Orlando
Detroit • Memphis

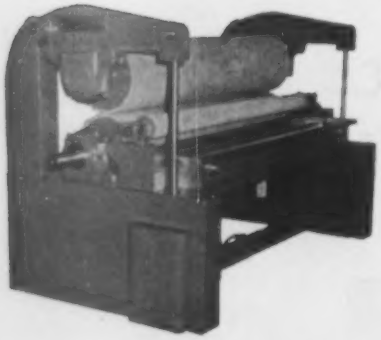
Delta AIR LINES
AIR FREIGHT
DOOR-TO-DOOR

GENERAL OFFICES: ATLANTA AIRPORT, ATLANTA, GEORGIA

CIRCLE 199 ON READER SERVICE CARD

J. E. CARROLL & CO

HEAVY DUTY PNEUMATIC PADDER



• New and improved operating features include equalized pressure control, spherical roller bearing roll mounting, welded steel frame construction. Available with several optional features. Other models to choose from. We sincerely solicit your inquiries.

CYLINDER DRYERS • PADDERS • COOLING CYLINDERS • DYE TANKS

J. E. CARROLL & CO LOWELL, MASSACHUSETTS

CIRCLE 255 ON READER SERVICE CARD

GREATER PROTECTION to your AIR LINE!

M-B

AUTOMATIC WHIRL-A-WAY AIR LINE FILTER MODEL W-1 and TRAP

RIBBON TYPE FILTERING UNIT removes solids .00039 and larger. Transparent plastic bowl makes filtered foreign matter visible. Gives maximum protection to all types of Lint blowers, Blow-off Hoses and various air-operated controls.

The TRAP ejects water automatically. Operates upon accumulation of 3 to 4 ounces. Discharges in less than 5 seconds. Assures dry air in pneumatic system at all times. Non-corrosive throughout.

M-B PRODUCTS
46 VICTOR AVE., Div. 11, DETROIT 3, MICHIGAN

J. E. SIRRINE COMPANY

Engineers Since 1902

Textile Mills & Finishing Plants
Water Supply
Waste Disposal
Steam & Hydro Power Plants
Appraisals
Pulp & Paper Mills
Surveys & Reports

GREENVILLE, SOUTH CAROLINA

CIRCLE 256 ON READER SERVICE CARD

Equipment & Supply News

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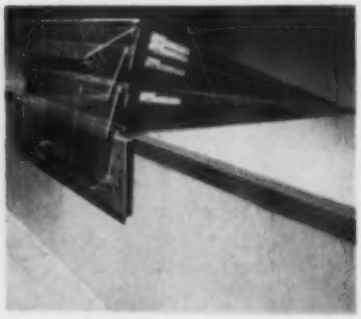
For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-33—Submerged filter system for use with corrosive solutions provides excellent resistance to acids and alkalies. The filter is fabricated of lucite and epoxy with stainless-steel fittings. Filter tubes of cotton or Dynel provide filtration down to 1 micron. Porous stone and carbon filter tubes are also available. Pump is designed for research laboratories, will deliver 360 gph. Sethco Mfg. Corp.



E-34—Adjustable lip dockboard, called Adjust-A-Lip, is now equipped with an automatic lip-actuating feature. When not in use, the adjustable lip is protected behind steel-faced rubber bumpers. When released, a counterbalance raises the dockboard until the lip is high enough to swing over the truck bed. The lip automatically extends and locks at this position. Stepping on the dockboard then lowers it where it locks in contact with the truck bed. The dockboard retracts automatically when the truck pulls away. Kelly Co.

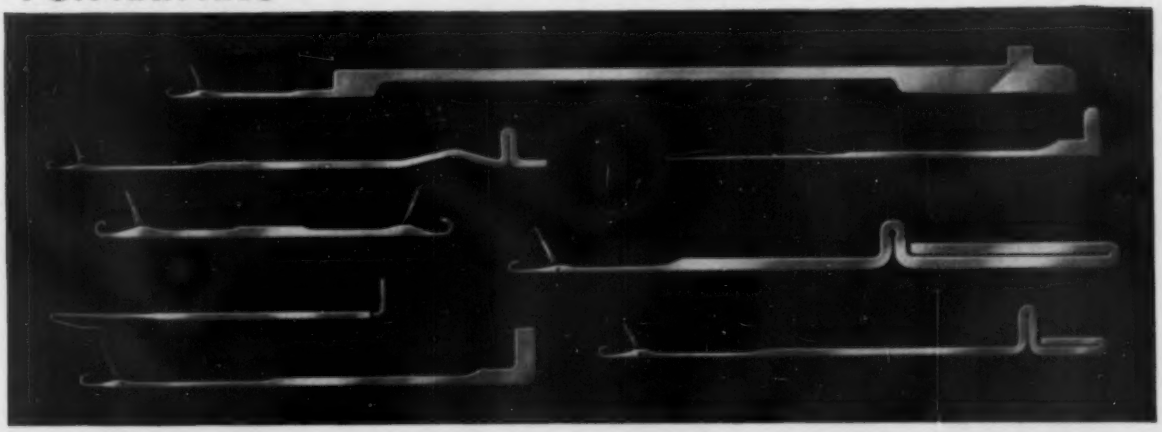
E-35—Mobile steel-strap dispenser handles all sizes of oval and ⅜- to ¾-in. flat strapping. The dispenser is 10½ inches wide. Wheels mounted near the center of gravity provide easy handling in narrow aisles. A built in tray on the handle provides carrying space for seals and strapping tools. A counterbalanced braking lever prevents the reel from dispensing excess material. A. J. Gerrard and Co.

. . . *Turn to page* 202

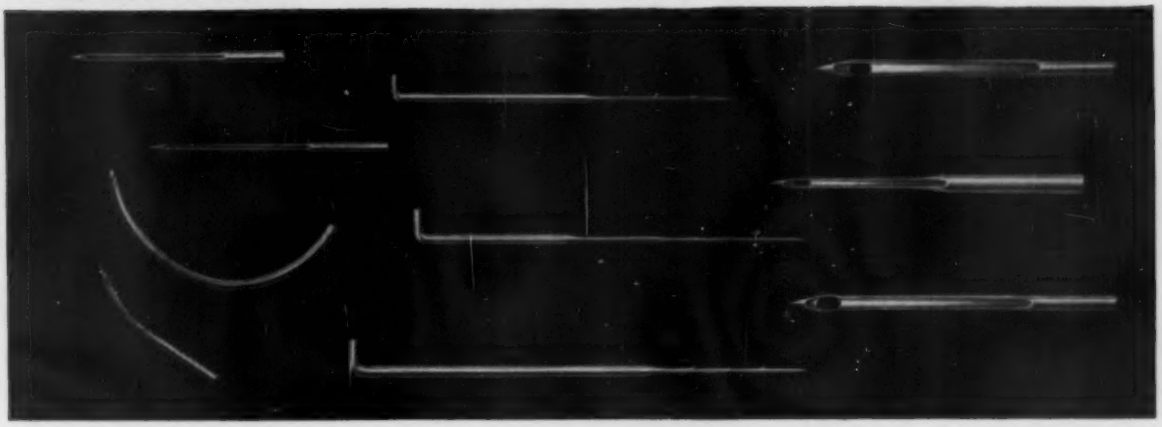
KEEP IN MIND...

when you use Torrington machine needles you use the finest available—and have the benefit of the advice and counsel of Torrington experts, who are skilled in solving your needle problems.

FOR KNITTING



FOR SEWING FOR FELTING FOR TUFTING



THE TORRINGTON COMPANY

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TORRINGTON MEETS EVERY NEEDLE NEED: SEWING · KNITTING · TUFTING · FELTING

static

ends with the Simco "Midget"

This electronic static eliminator is *unconditionally guaranteed* to end all static problems . . . safely, inexpensively . . . the most effective neutralizer available for use on cards, garnetts, warpers, slashers, finishing machines, and all other textile applications. The "*Midget*" assures static-free warps and slivers every time. Simco is America's largest manufacturer specializing in static neutralizers, anti-static cleaning devices and sprays, and meters for locating and measuring static.

Equip your machinery now.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

Equipment & Supply News

. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-36—Vacuum cleaner for wet and dry pickup is designed for low-cost, heavy-duty cleaning. The unit uses any available 55-gal. steel drum. Four models are offered with 1½-, 2-, or 3-in. diameter hose and a selection of 100 cleaning attachments. The two-motor model with 3-in. hose will pick up a billiard ball. It is equally effective for sucking liquids from flooded areas and sumps. Ace-Sycamore, Inc.

E-37—Spacer couplings, called Sure-Flex, are equipped with special detachable hubs that permit coupling of shafts up to 7½ inches apart. Couplings may be removed without disturbing shaft alignment. Shafts are attached by 4 cap screws. They withstand angular misalignment up to 1°, parallel misalignment up to $\frac{1}{16}$ inch, and free end float up to ⅛ inch. Standard couplings range from ⅜ to 3¼ inch. Junior Sure-Flex couplings available for shafts up to 1⅛-in. diameter. T. B. Wood's Sons Co.

E-38—Transistorized intercom for office and industrial use is designed to overcome high noise levels. The compact unit lies flat on the desk, is less than 3 inches high. Standard features include external relay control for use in high noise level areas, monitoring signal, incoming call chime, visual busy signal, and private or nonprivate operations. Talk-A-Phone Co.

E-39—Flaring tool, called Ridgid, produces exceptionally uniform 45- or 37-degree flares on copper, aluminum, and brass tubing. All working parts are locked together so they cannot be separated and lost. The hinge and aligning pins lock yoke, die bars, and tubing into exact alignment. Flare wall thickness is controlled to prevent thinned walls. Flare is burnished when feed screw is reversed. Ridge Tool Co.

E-40—Overhead clothing-storage device, called Lockerbasket, provides secure, sanitary, ventilated storage of personal effects. Self-locking, the Sur-Hold coat hanger permits garments to hang naturally, when they are exposed to circulating air. Moore Co.

. . . *Turn to page* 204

Men who read more ...earn more!

Most of us recall at least one classmate who "never cracked a book", but somehow got by. But today, in business and industry, "just getting by" isn't good enough.

Men who get ahead read regularly and well . . . and particularly the McGraw-Hill specialized publication that is edited selfishly for them. Like this one for you.

Recently, research in another field showed that men who invested five hours a week in reading business magazines earned an average of 75 percent more than those men who spent only an hour in reading. It makes sense in your business, too . . . doesn't it?

Men who read more...earn more!

RIDGID 535
Pipe & Bolt Threading Machine

Just 1 Universal Die Head and 2 Sets of Dies
Threads ½" to 2"

Cuts Die Changing 66%—Two sets of dies do the work of six . . . adjust to size right in machine. One set for ½" and ¾"; the other for 1", 1¼", 1½"and 2". All other RIDGID quick-opening pipe and bolt die heads and dies can be used.

No Slow Back-Off—Quick flip of throw-out lever retracts dies instantly, after thread is cut.

Fast Chucking RIDGID Speed Chuck grips tight, forward or reverse . . . sets and releases fast by hand. Tools swing out of way for chucking of short lengths from front.

Always True Threads—Cam-action rear-centering device gives extra support for long pipe lengths . . . no wobble.

Full-Floating Cutter—Roll-type cutter with large easy-to-turn handle has full-floating action for smooth cuts, even on out-of-round or bent pipe.

Smooth Reaming—Five heat-treated straight cutting flutes ream ⅛" to 2" pipe or conduit fast and smooth.

No Oil Waste—Self-contained oil system has vane-type pump that circulates oil when nozzle is positioned for threading.

Easy-to-Read Length Gauge—Sliding indicator gives accurate cut-off and thread lengths. Large lathe-type handle controls tool movement.

Plenty of Power—Fast, trouble-free, universal-type ½ h.p. motor, reversible at switch, easily threads up to 12" pipe with geared tools.

See and Try the Time-Saving
RIDGID 535 at Your Supply House!

RIDGID

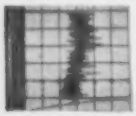
CIRCLE 203 ON READER SERVICE CARD 203

Low Cost ACCR-O-METER Conversion Kit gives you ultra-precise electronic testing—is adaptable to all Scott Tester Models in J and L Series, and Model X-3 and XL Testers.

Highly efficient and economical ACCR-O-METER Conversion Kit is essentially the load measuring system taken from the Scott Model CRE for adaptation to your vertical Scott Tester. Designed by Scott for constant-rate-of-extension testing, ACCR-O-METER gives you the advantages of easy, automatic, inertialess *electronic* testing—at modest cost! Quick, too . . . all it takes is substitution of bolted-on units. No machining, no welding. Here are just a few of the time-saving, money-saving features of the ACCR-O-METER:

INERTIALESS WEIGHING Electronic strain gage weighing eliminates weight-handling. Load cell has *interchangeable* force dividers for 30 different test capacities to 2000 lbs. . . . for greater testing convenience and economy!

PUSH-BUTTON SIMPLICITY Fingertip controls — effortless operation. Available with wide range chart speeds . . . plus "time-to-break" and "pipping" circuit for special testing. More tests per hour, in the lab, or on production!



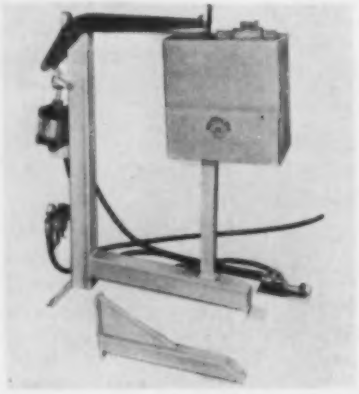
STRESS-STRAIN PICTURIZED Electronic weighing picturizes stress-strain data on permanent strip chart, giving ample magnification for practically all materials.

Interested? Write for complete facts and prices. (Be sure to state model of your present Scott Tester.) Scott Testers Inc., 95 Blackstone Street, Providence, R. I. Tel. DExter 1-5650 (Area Code 401).

SCOTT TESTERS

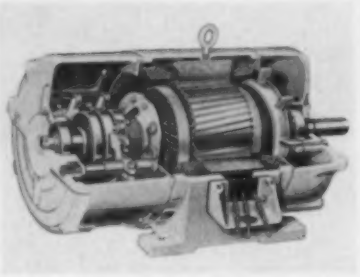
THE SURE TEST . . . SCOTT!

E-41—Vertical conveyor, called Escaveyor, is used with packaged or unit commodities, has the continuity of a belt conveyor. It loads and unloads itself simply and automatically. The Escaveyor is compact, using less floor space than a straight lift conveyor because the horizontal flights, used for carrying, fold to assume a space-saving vertical position on the return trip. Standard Conveyor Co.



E-42—Giant bottom stapler delivers over half a ton of pressure to set up triple- or double-wall corrugated cartons. The double-acting pneumatic piston guarantees rapid performance. The stapler is complete with lubricator and air filter, and connects to any air-line supplying 60 to 80 psi. It uses long-legged staples of heavy-gage steel wire in lengths from ⅞ to 1⅜ inches. Container Stapling Corp.

E-43—Platform scales, Series 9600, are designed for heavy duty in two capacities: 500 pounds with 8 ounces, and 1000 pounds with 1-lb. graduation. Dial chart has 30-in. reading line with large black figures. It is available with a quick tare device permitting 25% of the dial capacity to be tared off. The cast-iron platform is 18x27 inches and is elevated 8¼ inches above the floor. Overall height is 71½ inches. Models without wheels for pit installations are also available. Exact Weight Scale Co.



E-44—Wound-rotor motor has been redesigned to meet NEMA standards. It features reduction in size and weight, yet retains durable cast-iron housing. The rotor is precision wound and balanced for quiet, vibrationless operation. Rotor end coils are bonded with an epoxy fiber glass to eliminate end coil shorts. Used for elevators, cranes, hoists, etc. Its Class B insulation system provides greater protection against moisture, oil, dirt, weak acids, and abrasive dust. Available for horizontal, ceiling, or side-wall mounting. The Louis Allis Co.

E-45—Rapid case marker designed for putting extra large numbers on wood boxes, paper cases, cardboard cartons, and fiber drums is available in six-figure bands in 1-, 1½-, and 2-in. high characters. The case marker weighs only 3 pounds and is easy to handle. A sharp impression is made with very little pressure by the operator who uses a rocking action. Pryor Marking Products.

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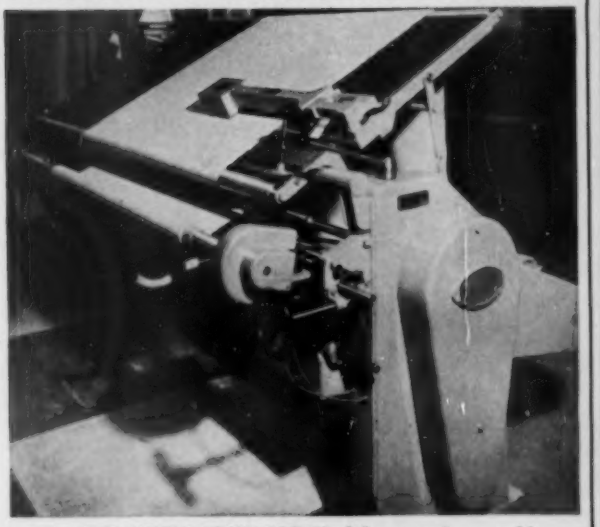
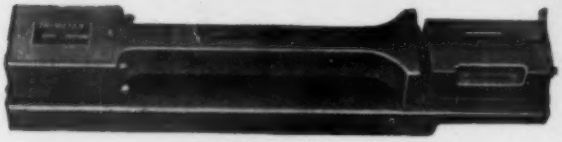
AN ASSET TO MODERN CLOTH ROOMS



The "TRUMETER" STANDARD Model measuring machine mounted to a "MAAG" inspection & rolling machine



"Trumeter" Standard Measuring Machine

Chief Characteristics of the "TRUMETER":

It can be mounted to almost any rolling system or table—The "TRUMETER" rolling section embodies an automatic brake, adjustable spring loaded nip-roller, ticket printer synchronized with the rolling and brake arrangement. Models available for almost any fabric including pile fabrics.

FOOLPROOF MEASUREMENTS, NO MORE, NO LESS

Chief Characteristics of the "MAAG" Inspection & Rolling Machine:

(We are the sole Agents for Maag Bros.)

The "MAAG" machine is easy to handle. There are three quiet speeds; also in reverse, embodies an electronic (no oil) automatic selvedge Guide, automatic switch-off brake and a gear-switch to re-roll materials face up or down. Table adjustable to an angle of 60°. Many other fine features.

MECHANICAL COUNTERS
for most industrial needs.

- *MEASURING*
- *REVOLUTION*
- *PRE-DETERMINED*
- *STROKE*

Write for details of full line to :

TRUMETER COMPANY

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Represented in all Southern Textile districts, Pennsylvania, New Jersey and the New England States

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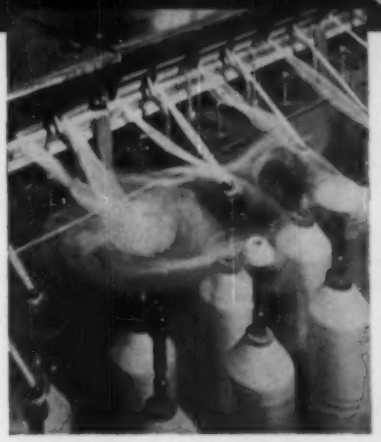
"EDDIE ADAMSTOP"

STOP

UNNECESSARY SNOWSTORMS

with



instantly detects all roving failures and stops the frame

Adamstop detects end breakage automatically, and stops the frame before "snowstorm" reaction develops. Adamstop often has the frame stopped before ends are completely broken. Ends costly downtime. Adamstop increases production efficiency--will pay for itself quickly by increasing output and increasing frame assignments while reducing waste and frame maintenance. Modernize your roving operations--Choose Adamstop!

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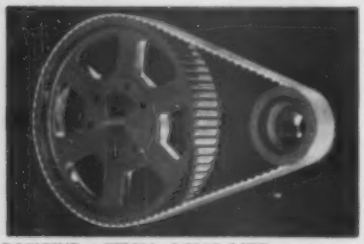
CIRCLE 205 ON READER SERVICE CARD

WOOD'S POWER TRANSMISSION PRODUCT NEWS



POSITIVE ACTION—LONG LIFE

Wood's Timing Belt Drives provide positive, slip-free action. Belts are all muscle. No high initial tension, tension devices or lubrication needed. Drives are light weight, compact . . . quiet and clean. Wide load and speed range. Equipped with famous Sure-Grip Bushings. Write for Bulletin 2100.

CIRCLE 257 ON READER SERVICE CARD

HIGH PERFORMANCE VARIABLE

Wood's stationary control, "VPS" Variable Speed Drives won't freeze or stick. No lubrication is needed. Speed changes are made accurately and quickly by turning an adjusting screw from either side. Initial, operating and maintenance costs are lower. Write for Bulletin 1100.

CIRCLE 258 ON READER SERVICE CARD

REVOLUTIONARY NEW VARIABLE

Revolutionary resilient cam follower construction of Wood's new "MCS" motion control, variable speed drives holds constant driven speeds under varying torque loads. Like the "MS," the "MCS" won't freeze or stick. Check oil only once or twice a year. Write for Bulletins 8102, 4101.

CIRCLE 259 ON READER SERVICE CARD

MPT/360B

Woods

T. B. WOOD'S SONS COMPANY

CHAMBERSBURG, PENNSYLVANIA

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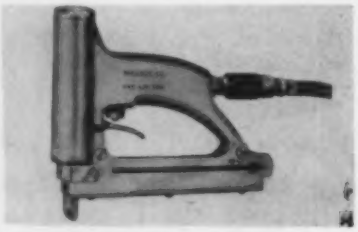
Equipment & Supply News

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

. . . *Begins on page* 183

E-46—Universal drive tensioner takes up slack in chain and belt drives. Rotating arm permits tension control at any point on a 360-degree arc without moving the base. It also has an adjustable slot for exact tensioning. A 2-in. long shaft is furnished for single drives, but 3- and 4-in. shafts are available. The unit also can be used as an idler bracket in gear trains. Brewer Machine & Gear Co.

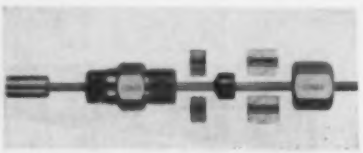


E-47—Pneumatic stapler, called PR Bantam, is lightweight, well balanced. Coctly downtime is greatly reduced with the jet-drive air return which eliminates parts failures, extends the life of the tool, and assures positive action. The stapler takes both standard and wide-crown staples. Signode Steel Strapping Co.

E-48—Pressure and temperature recorder, Series 8000, is completely self contained. It uses a constant voltage source for standardization. The unit will record one or more points of pressure and up to 23 points of temperature. Standard unit has a range of 0 to 800 F. and 0 to 10,000 psig. but other ranges are available. Whelco Instruments, Div., Barber-Colman Co.

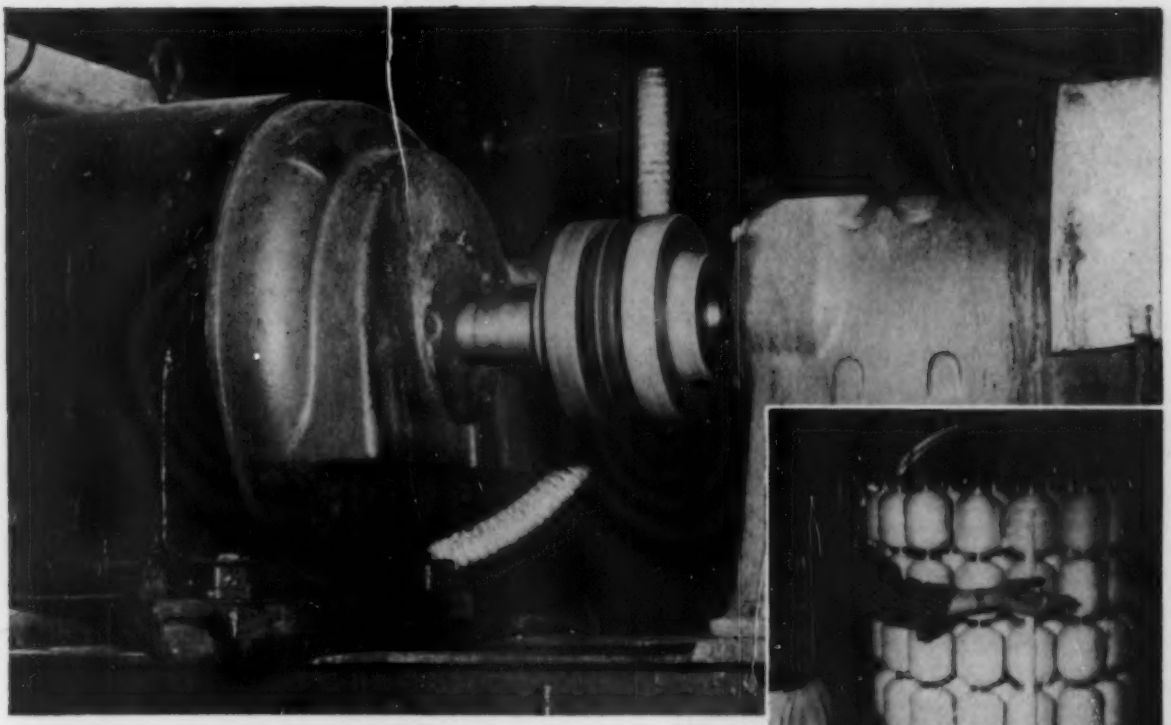
E-49—Pressure-reducing and relief valve, No. 3851 Type F, is designed for pressures of 4,000 psi. Valve is constructed of heat-treated aluminum, with bronze and monel trim. It comes in ½- and ¾-in. sizes. The single-seated, spring-loaded, diaphragm-actuated valve has adjustable pressure ranges of 0 to 1000, 0 to 2000 and 0 to 3500 psi. Pressures can be controlled within 2-3 psi. Atlas Valve Co.

E-50—Solid-rubber grinding wheel, called Mermac, fits directly on the spindle of a Thor air grinder. Abrasive belts of desired grits are slipped over the rubber wheel and the centrifugal expansion of the wheel holds the belt without the use of a mechanical locking device. This new grinding process produces finer finishing because the resilient wheel hugs the work. These grinders offer 100% increase in air power with no increase in weight. Other advantages are continuous balance and quick changing of abrasive belts. Thor Power Tool Co.



E-51—Split-packing gland is for bulb thermometers that require pressure seal on capillary tube. Split seat and follower compress sealant inside gland body. Soft sealant prevents damage to probe. Temperature range, up to 1850 F.; pressures to 7500 psi. Conax Corp.

. . . *Turn to page* 208



$33 SPENT $1,500 SAVED!

Virginia Mills, Swepsonville, N. C. manufacturer of upholstery materials, bought the Sure-Flex Coupling for its readily recognized, vibration-absorption, no-maintenance, no-lubrication features. They didn't count upon one of the "plus features" of this No. 10, $33 coupling to save them $1500 and six weeks downtime. It happened like this . . .

A wing nut, used to lock the carrier of yarn into a dye vat, worked loose, passed a strainer and into the dye pump. Damage amounted to $1500. Six weeks of expensive downtime were required to replace the pump, which was driven by a 75 horsepower motor through a flexible coupling.

Shortly after installing a Sure-Flex Coupling, another nut passed into a dye pump. The coupling wound up so tightly that the flexible member jumped out of the flanges, disconnecting the pump from the motor. Inspection showed no damage. The pump and the coupling were put back into service, the latter with its original flexible sleeve. Virginia Mills is now standardizing on Sure-Flex Couplings.

This "safety factor" is just one of many bonus features that you get with Sure-Flex Couplings. More important are its 4-way flexing action which absorbs all types and combinations of misalignment, and from 5 to 15 times more shock and vibration than other leading flexible couplings, its lack of wear and its simple, trouble-free design. And the cost is low. Get the complete story.

Woods

write for bulletin 5103

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SF/160

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"If we were to state the percentage of savings we have made since using a LUBRIPLATE Lubricant for general chassis lubrication, it might appear that we were exaggerating. But our records speak for themselves. The four years we have used LUBRIPLATE have shown an astonishing drop in steering, universal joint and spring pin parts replacements. We plan to continue to use LUBRIPLATE exclusively."

Sidney Rothman, General Manager

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

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Equipment & Supply News

. . . *Begins on page* 183

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

E-52—A 10-key adding machine features compactness and high-speed operation. Position of repeat key makes multiplication as simple as addition. While operating speed has been increased above that of earlier models, operating sounds amount to no more than a quiet purr. Available in two models, 911-E11 (capacity list 9, total 10) and 111E11 (capacity list 10, total 11). Monroe Calculating Machine Co.

E-53—Two-dial weight-loading balance increases speed and accuracy in laboratory weighings of up to 200 grams. This is the first balance of this capacity to combine weight loading with fine dial weighing, thus reducing weighing time by 30%. Direct reading to 0.005 grams with accuracy to 0.01 grams is obtained. Oil damping of balance oscillations facilitates quick readings. Torsion Balance Co.

Corrections

Due to a regrettable inadvertence, a few inaccuracies crept into the July 1960 issue of the magazine: Corrections are below:

On page 51, next to the last paragraph in the Roving section, copy should read: "A roving bobbin cleaner that permits one operator to clean 20,000 bobbins per 8-hr. shift was shown by the Terrell Machine Co."

In the Equipment and Supply News section, the photos above E-13 on page 144 and E-22 on page 146 should be transposed. Photos above E-25 on page 151 and E-62 on page 159 should be transposed.

TEXTILE WORLD New Literature

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

L-1—Dryers with special application to the textile industry are illustrated in a 12-p., 2-color bulletin covering radiant-heat dryers and curing and heat-treating equipment. Andrews & Goodrich, Div. of Midland-Ross Corp.

L-2—Yarn-inspection device is discussed in Bulletin YI-6, which covers such problems as ends-out and tension control. An end-break detector is also discussed, and the difference is fully explained. Lindly & Co., Inc.

L-3—Pump drives and accessories are described in 4-p. Bulletin PD760, which covers direct-electric motor-drive units, air-motor drives, fixed and vari-speed belt drives, and portable units. Eco Engineering Co.

L-4—Industrial ovens are listed in 12-p. Catalog 71-TH-1960. High temperature, recirculating, gravity and forced convection ovens are described and their industrial—and mill—applications covered. Trent, Inc.

L-5—Vibration-damping pads are described in a 4-p. folder which lists the advantages of the pads and is illustrated by graphs and pictures. Load deflection and recovery characteristics are outlined. Lowell Industries, Inc.

L-6—Strapping tools are discussed in a new 4-p. illustrated folder which covers the functions and advantages of the tools. Detailed descriptions and a chart of specifications and applications is included. Signode Steel Strapping Co.

L-7—Vertical conveyor is described in 4-p., 2-color Bulletin No. 125. Pictures show the conveyor in use in several plants. Time, space and money savings are emphasized. Schematic diagrams are included. Standard Conveyor Co.

. . . *Turn to page* 210

WARP DRAWING MACHINES HELP YOU KEEP AHEAD WITH FAST PATTERN CHANGES

Mills which are running fancy patterns, special weaves, short-order exclusives, or novelties are often bogged down waiting on drawing-in of new warps. The use of Barber-Colman Warp Drawing Machines can greatly relieve such situations because of the ease and rapidity with which new patterns can be drawn. Operating at speeds (depending on conditions) of from 2,000 to 5,000 ends per hour, these machines will draw cotton, worsted, wool, or filament and spun synthetics for plain or dobby weaves from a flat sheet, split sheet, double beam, or one-and-one leased warp. Correct selection of drop wire, heddle, and reed dent for each end is accurately controlled by a metal pattern strip punched in accordance with the designer's draft. Machines are made in several sizes with capacities up to 26 harness frames and 8 banks of drop wires. *For details, see your Barber-Colman representative . . .*

21st SOUTHERN TEXTILE EXPOSITION

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OCTOBER 3rd–7th
1960

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NEW LITERATURE

. . . *Begins on page* 208

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

L-8—Powered steel-strapping tools that make the application of strapping easier, faster and more uniform are detailed in a 16-p. illustrated booklet. Strap-feed assemblies and accessory items are included. Acme Steel Co.

L-9—Industrial brushes are catalogued in a file folder featuring the basic brush functions of applying, removing, and arranging on the roll. Material is included on the choice of bristles for mill jobs. M. W. Jenkins' Sons, Inc.

L-10—Treatment for cooling waters is the subject of an 8-p. booklet which outlines water problems and features a flow diagram and many pictures. Scale, corrosion, and microbiological growth are covered. Nalco Chemical Co.

ENGINEERING

L-11—Gyro-integrating mass flowmeter is discussed in bulletin GEZ-3025, a 2-p. illustrated sheet punched for loose-leaf notebook. Includes discussion of conversion from volumetric to mass flow measurement. General Electric Co.

L-12—Depalletizer is described in 6-p., 2-color folder illustrated by pictures and drawings. Discusses engineering improvements that have increased the operating efficiency of the depalletizer. Alvey Conveyor Mfg. Co.

L-13—Flexible tubing products are listed in Catalog 10-19, which includes a definition of flexible tubing, its major advantages and main uses. Suggests new methods for handling air, liquids and flowable solids. Flexible Tubing Corp.

L-14—Meters, feeders, controls are listed and discussed in Bulletin Ref. No. 0001.20-1. This illustrated, 8-p. bulletin covers butterfly valves, supervisory control systems, and totalizing meters. B-I-F Industries.

L-15—Products and facilities, including thirty-one instruments with their specifications, are covered in 6-p., illustrated Bulletin TF200. Amplifiers, oscillators, and HF transmitters are also covered. Resdel Engineering Corp.

L-16—Modular power supplies are described in a data sheet showing photographs of the packaging method designed to dissipate transsistor and transformer heat. Includes a table of output values. Dressen-Barnes Corp.

L-17—Thermocouple components are contained in 28-p. Catalog C 100-3, which includes specifications and ordering information. Catalog is illustrated with photos, graphs and tables. Minneapolis-Honeywell Regulator Co., Industrial Div.

L-18—Rust-preventing paint is described in 4-p., illustrated product catalog, which also covers glare-proof window coating, roof coating, glass-cleaning crystals, concrete floor enamel, and others. The Skybryte Co.

L-19—Cylindrical grinder is described in an 8-p., 3-color, illustrated Catalog No. 418, which, using photographs and schematic drawings, gives detailed description of the grinder and shows its versatility. Van Norman Machine Co.

L-20—Metal-clad switchgear is listed in Bulletin 2801-2A, a 20-p. booklet illustrated by photographs and schematic drawings. Both indoor and outdoor switchgear are covered in full detail. I-T-E Circuit Breaker Co.

CHEMICALS & SUPPLIES

L-21—Aliphatic organic chemicals are detailed in a 12-p. colorful booklet illustrated with tables and drawings. The booklet covers over 200 fatty acids and fatty nitrogen derivatives. Armour Industrial Chemical Co.

. . . *Turn to page* 212

There's no limit to the lace patterns with the NEW KIDDE 24 BAR RASCHEL KNITTER

Look at the lace in the picture. Every one of those intricate and varied patterns can be made on a single machine . . . Kidde's new 24 bar knitter. Look again at the quality of the lace . . . at the fine detail and the clear outlining of the pattern. That's quality lace turned out at moderate cost.

This new addition to Kidde's line of Raschel knitters is built to operate with 24 bars . . . but can be used with 14 or 18 for less intricate patterns. It turns the lace out fast, too . . . up to 300 courses per minute.

Like all Kidde machines, the new 24 bar knitter is simple, accessible and easy to work on. Equally important, it is ruggedly built to withstand round-the-clock, high speed operation. Write to Kidde for full information.

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CIRCLE 211 ON READER SERVICE CARD

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NEW LITERATURE

. . . *Begins on page* 208

For more information on any of these items, circle appropriate number on the Reader-Service Card, next to the back cover.

L-22—Aliphatic amides of high molecular weight are covered in a 2-color, 24-p. booklet illustrated by tables, drawings and pictures. Chemical properties, applications, and constants are covered. Armour Industrial Chemical Co.

L-23—Bulk-storage structures are described in 16-p., 3-color Bulletin MU-107, illustrated by schematic flow diagrams. Actual cost-savings realized in handling and storing are included. A. O. Smith Corp., Harvestore Products Div.

L-24—Technical bulletins available are listed in an 8-p. booklet. Headings include peroxygen chemicals, textile processing, and peroxygen chemicals in organic synthesis. Becco Chemical Div., Food Machinery & Chemical Corp.

L-25—Ethyl acetate of three grades is described in a technical-data bulletin that includes specifications, properties, shipping information and uses. Various textile applications are stressed. U.S.I. Industrial Chemicals Co.

L-26—Polyalkylene glycol fluids and lubricants are described and evaluated in a 52-p. booklet containing 32 types of synthetic fluids and lubricants. The booklet is well illustrated by charts and graphs. Union Carbide Corp.

L-27—Calcium carbide and acetylene are featured in a 16-p. brochure illustrated by pictures and drawings. Booklet traces the history of calcium carbide and describes its manufacture. National Carbide Div., Air Reduction Co., Inc.

L-28—Chemicals are catalogued in a 36-p., 2-color brochure which lists chemicals with physical data and uses. A supplementary listing highlights the major uses of the chemicals. Chemicals Div., Food Machinery & Chemical Corp.

L-29—Polyvinylpyrrolidone and its products are detailed in 22-p. Booklet No. AP-98. Shows new applications for industrial grades of PVP and is arranged to serve as a reference. Dyestuff and Chemical Div., General Aniline & Film Corp.

GENERAL

L-30—Industrial-truck cost histories are covered in four booklets totaling 62 pages which include costs and battery electric industrial trucks. Each booklet contains charts, and pictures. Exide Industrial Div., Electric Storage Battery Co.

L-31—Viscometers for sizing applications are described in 2-p. Bulletin V-1213, which lists benefits from viscometer, typical viscosity, and principle of operation. Pictures and graphs are also included. Norcross Corp.

L-32—Cotton quality is covered in a new 15-minute, 16mm color motion picture which tells how and why cotton markets and profits are increased when quality is preserved. Fiber damage is also discussed. National Cotton Council.

L-33—Building maintenance is explored in a 28-p. manual which gives detailed information on general maintenance, with special emphasis on floor surfaces and their care and a discussion of equipment and general cleaning. Johnson's Wax Co.

L-34—Packaging is described in a 16-p. booklet which covers in detail carton research and development, and production facilities. Production, distribution and transportation problems are covered. Weyerhauser Co.

L-35—Steel shelvings are described in 36-p. Catalog 2400, covering boltless T-line shelving, angle shelving, tool storage inserts, and many others. Well illustrated by pictures and diagrams. Penco Div., Alan Wood Steel Co.

L-36—Tabulating card files and supplies are listed in an illustrated, 12-p. booklet. Mechanized equipment, fireproof insulated, and manetic tape storage units are included. Remington Rand Div., Sperry Rand Corp.

L-37—Textile-fiber materials are covered in a 52-p. illustrated booklet with sections on continuous-filament yarn, treated yarn, staple-fiber textile materials, cordage and sewing thread, and others. Owens-Corning Fiberglas Corp.

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PETROLEUM ENGINEERING
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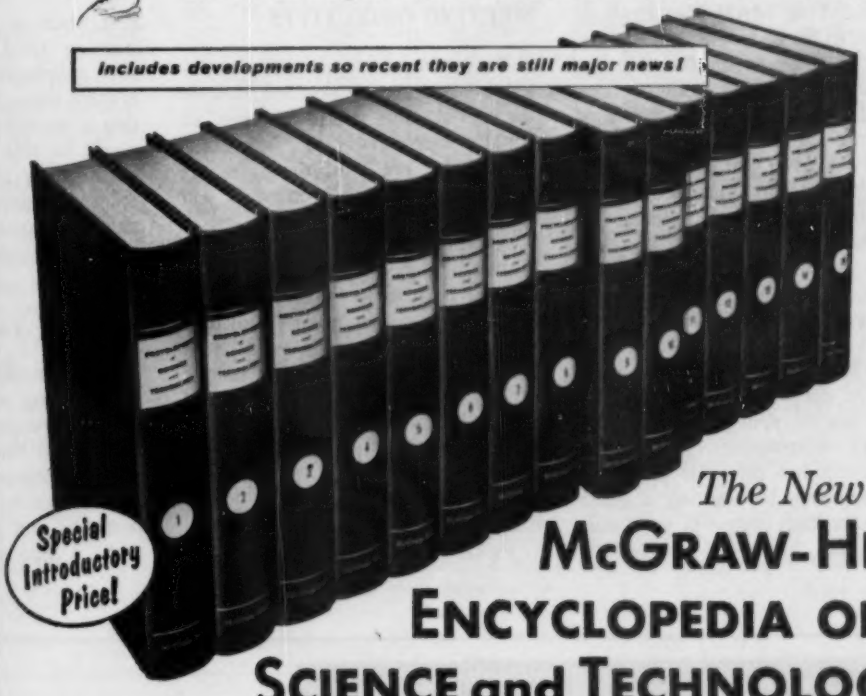

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TW-9

How to Rate Yourself As a Supervisor

By ROBLEY D. STEVENS,
Management Consultant, Washington, D. C.

YOU'RE THE MAN your employees look to for orders and materials. You're the man to set the tone for discipline, instruction, training, and over-all supervision. That's why most employees in your mill listen carefully to what you say and watch carefully the way you act. You represent management to them.

If they like the way you do things—if they approve of your method of handling people and of working at your own tasks—the result will be higher morale. Not only that. Their production also will increase in proportion as you make skillful use of your leadership talents and opportunities. In a word, good leadership on your part can go a long way to assuring a good climate for high output in your mill—and for low-cost production.

MEETING OBJECTIVES

To accomplish your mill's objectives, you have to perform a wide variety of duties and assume an equally wide variety of responsibilities. Here are some of the things you'll want to keep in mind as you strive to meet objectives:

A systematic merit-rating program will provide your mill with the kind of information that will assure highest supervisory quality and performance. Such a program will help you find and put to use the talents of the mill employees. One clear index as to whether you've succeeded in matching the right men with the right jobs is the turnover rate. The lower it is, the better management is doing its job.

Picking the right people in the first place is also important, as is training (and upgrading of skills) that enlightened mill managers are always eager to promote. By putting a merit-rating program to use, you'll be able to make the most of each man's abilities and potential. Such a program can also relieve the anxiety of people who feel that they aren't achieving the recognition they deserve.

FINDING TALENT

A merit-rating program can help you turn up mill supervisory talent that otherwise might never be recognized. The basic elements of such a program include an analysis of the duties, responsibilities, and technical and supervisory skills that make a man a good supervisor. It

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helps to be as specific as possible in listing the things you're after in supervisory personnel so that you can match potential management people against certain clearly defined measurements.

There are two benefits to having a merit-rating system. In the first place, such a program will give management a clearer insight into what makes a supervisor just average or really outstanding. It also affords a factual and non-emotional basis for discussing each supervisor's good and weak points with him calmly and dispassionately.

Because the typical mill prefers to develop its own managerial personnel, a general rule is to promote from within when a supervisory opening occurs.

ANALYZING THE JOB

The first step in getting a merit-rating program under way is to analyze the jobs that your mill supervisors do along with the requirements for those jobs. That isn't as easy as it may sound. For one thing, there is a temptation on management's part to fill a vacancy without giving enough thought to all aspects of the job. And while all mill supervisory jobs do have common elements, no two jobs—despite titles—are exactly alike, and in many instances the differences are as important as the similarities.

For example, John T., an assistant weaving superintendent, happens to have a group of people reporting to him who respond to John's easy-going manner because they don't need a great deal of supervision themselves. Weavers and battery hands alike are savvy workers, and would bridle under tight, over-the-shoulder supervision. On the other hand, Harry Joe M., whose job is identical to John T.'s job in title, has an entirely different climate in his department. His men aren't as sure of themselves, find themselves often asking Harry Joe for help and advice. He's more formal in manner, and still he gets results as good as John does using entirely different tactics. One man is what the experts call a democratic manager, the other is autocratic.

That just goes to prove that it isn't easy to type either people or jobs, because people are jobs—and jobs, people. Nevertheless, a careful analysis of the background and characteristics required for a supervisory job in your mill can eliminate many undesirable people. To help you sharpen your analytical skills, run through the self-analysis checklist below. All answers, by the way, should be "yes" to classify yourself as a top-flight manager.

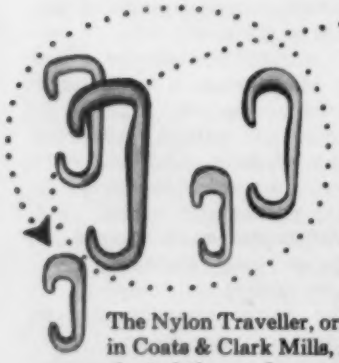
ANALYZE YOURSELF

This checklist will give you a good idea of how you're doing as a supervisor—and it will help point out weak spots:

1. Understanding the organization—Do you . . .

• Understand the functions of your department and how they fit into the total program of management?

. . . *Turn the page*



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• Show each employee how his job fits into the big picture?
• Know how to determine your own lines of authority?
• Know what kind of employee makes the best worker?
• Make assignments clearly and make them logically?

2. Getting out work—Do you . . .
• Try to make your instructions clear and specific?
• Review the work of your department regularly?
• Coordinate department work?
• Make sure each employee knows what you require of him?
• Emphasize importance of cost control and cost reduction?
• Keep overtime work to an irreducible minimum?
• Resolve work problems as soon as possible?

3. Planning and scheduling—Do you . . .
• Keep up with workloads by making schedules and sticking to them?
• Give work priorities and schedules keen attention?
• Plan for better use of manpower and equipment?
• Set realistic goals for employees?
• Encourage initiative in your employees?
• Know how to meet production emergencies?

4. Working procedures and methods—Do you . . .
• Analyze department operations?
• Keep evaluating present methods, looking for new ones?
• Develop and apply new methods?
• Use work simplification?
• Place employees where they are most effective?

5. Performance requirements—Do you . . .
• Check work that's done?
• Appraise job operations?
• Keep a sharp eye on quality?

6. Developing your people—Do you . . .
• See that a good job gets a quick reward?
• Determine training needs of employees in the mill?
• Tell workers how they're doing?

7. Maintaining a cooperative work force—Do you . . .
• Transfer and reassign workers for best use of their skills?
• Adjust grievances objectively?
• Stress safe working habits?

8. Self improvement—Do you . . .
• Improve your knowledge and skills by reading and study?
• Make a consistent attempt to overcome your shortcomings?
• Express yourself clearly, logically, and forcefully both in talking and in writing?
• Like to supervise?
• Need additional training?

The manner in which you perform each of these duties and responsibilities determines your success or your failure in carrying out your job as a member of the management team. It's toward this general goal that every mill supervisor should strive. You should apply yourself constantly toward developing and improving your own performance no less than the performance of each of the men reporting to you.

SEASONAL PEAKS

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TEXTILE WORLD . . . Advertisers' Literature

To get items you want offered in the advertisements in this issue, just circle numbers on Reader-Service Card next to back cover.

A350—Power Transmission. Following bulletins are available: Bulletin 2100, Belt Drives; Bulletin 1100 "VPS" Variable-Speed Drives; Bulletins 8102 and 4101, "MCS" 5103, Sure-Flex Couplings. T. B. Woods Sons Co.

A351—Ultra Yarn Inspector. Information on Series 1,000. Foster Machine Co., Electronic Sales Div.

A352—Avistrap Cord Strapping. Sample and further information available on request. American Viscose Corp., Industrial Packaging Dept.

A353 — Collecto-Vac. Illustrated Bulletin 30A available on request. The Bahnson Co.

A354—Lubrication. "Lubriplate Data Book" available on request. Lubriplate Div., Fiske Bros. Refining Co.

A355—Valves. Folder No. 181-C available on request. Jenkins Bros.

A356—Warp Size. Data Sheet 2,000 gives information on Glytex CMC. Keever Starch Co.

A357—Raschel Knitter. Information available on request. Kidde Textile Machinery Corp.

A358—Creel Arms. Latest catalog available on request. Edward J. McBride Co., Inc.

A359—Bobbins. Complete bobbin catalog available on request. Lestershire Div., National Vulcanized Fibre Co.

A360—Rotary Unions. Bulletins 700 and 800 available on request. Perfecting Service Co.

A361—Valves. Illustrated literature available on request. Wm Powell Co.

A362—Softener and Antistatic Agent. Technical information available on request. Proctor & Gamble Co.

A363—Containers. Information on containers for material handling available on request. G. B. Lewis Co.

A364 — Rotary Joints. Catalog J-2002 available on request. The Johnson Corp.

A365—Pneumatic Controller. Complete data on 624 A/B Controller available on request. The Bristol Co.

A366 — Doff-Rite Feeler. Data sheets on HFL Doff-Rite Feeler available on request. H. F. Livermore Corp.

A367—Multicolor Screen-Printing Machine. Illustrated catalog and printed fabric samples available on request. E. S. Rudnick

A368—Steel-Strapping Calculator. Free calculator available on request. Signode Steel Strapping Co.

A369—Textile Leather for Leather Belting and Textile Accessories. Free sample of leather available on your written request. Chas Bond Co.

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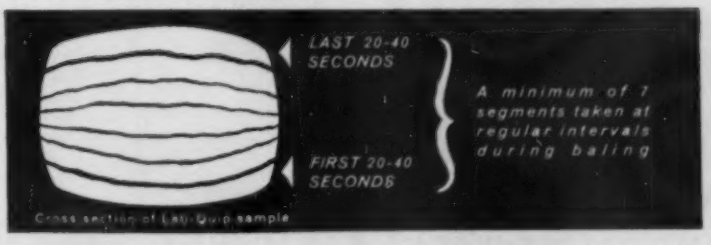
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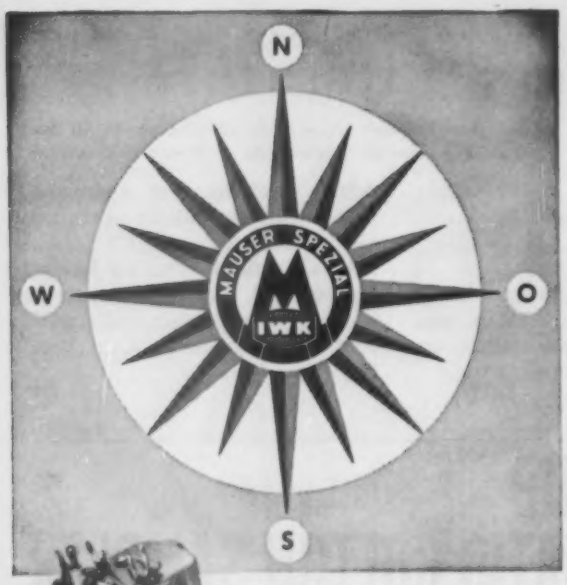
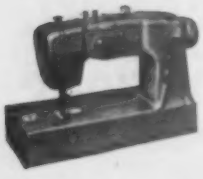


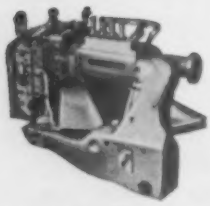
Mauser-Special

Industrial Sewing Machines



owe their international reputation to the precision of all their component parts, as well as to their most accurate assemblage and extremely precise adjustment.

A complete line of various types are manufactured. They are used for all appropriate purposes by manufacturers of hosiery and knit goods as well as clothing, woven goods, blankets and similar materials.



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TEXTILE WORLD

News About Suppliers

ALLIED CHEMICAL CORP., New York, N. Y.—Has announced plans for the construction of a multimillion dollar fine-denier Caprolan-nylon yarn plant at Irmo, S. C. The plant is expected to be completed by the end of 1961. . . . **AMERICAN CYANAMID CO., FIBERS DIV.,** New York, N. Y.—Has named I. Clifford Smith as sales representative, Southern-states district. T. Dean Smith is the new manager, Petrochemicals Dept., and Thomas A. Ripley, technical service representative, has been transferred from New York to the Charlotte, N. C. office. . . . **AMERICAN VISCOSE CORP.,** Philadelphia, Pa.—Has opened the first Southeastern-district sales office for its new Industrial Packaging Dept. in Charlotte, N. C., and has named Alfred M. Lynch as district manager. . . . **ARMSTRONG KORK GMBH, DIV. OF ARMSTRONG CORK CO.,** Lancaster, Pa.—Has begun construction of a plant and sales office in Munster, Germany. **THE BRISTOL CO.,** Waterbury, Conn.—Has acquired Hanson-Gorrill-Brian, Inc., Glen Cove, N. Y. The business will be operated through a new subsidiary to be known as "The Data-Master Corp." . . . **CELANESE CORP. OF AMERICA,** New York, N. Y.—Has announced plans for a major expansion at its Pampa, Texas, plant, for the production of higher acrylate esters. The expansion, to be completed before 1961, will double the plant's overall capacity for acrylate production. . . . **CELANESE CORP. OF AMERICA,** New York, N. Y.—Has appointed Frank J. Fitzgerald vice president and manager of manufacturing of Celanese Fiber Co. He succeeds David Taylor, who has been named president of Celanese Plastic Products Co.

GORDON PATTERSON (left) has been elected president and a director of Yale & Towne Mfg. Co., New York, N. Y. WILLIAM E. HOUGHTON (center) has been appointed a sales manager for basic industrial chemicals for the General Chemical Div. of Allied Chemical Corp. He will be responsible for sales of aluminum sulfate, aluminum chloride, and aluminum nitrate solutions, ammonium, and potash alum, sodium compounds and phosphoric acid. JAMES W. KELLEY (right) has also been appointed a sales manager for basic industrial chemicals for the division in charge of sales of hydrofluoric, nitric and muratic acids, inorganic fluoric chemicals, and other products.

CIBA Co., Fair Lawn, N. J.—Will begin construction at a new location for its Southern-district headquarters this fall. . . . **CLEVELAND CRANE & ENGINEERING CO.,** Wickliffe, Ohio—Has announced the election of Herbert T. Florence as president and general manager. . . . **CORN PRODUCTS SALES CO.,** New York, N. Y.—Has announced the appointment of E. Carl Snyder as manager of sales-service for the industrial division. He succeeds Thomas A. Bruce, who has returned to the West Coast as assistant regional manager of the division. . . . **CROWN CHEMICAL CORP.,** Providence, R. I.—Has purchased the Cravenette Co., Hackensack, N. J. Robert C. Hunziner will continue as president of Cravenette, which will be operated as a wholly-owned subsidiary of Crown. . . . **DIXON CORP.,** Bristol, R. I.—Reports that it has sold all of its Rhode Island facilities and plans to move all textile operations to the South within the next two years. The company has purchased the machine shop facilities of the Southern Spindle and Flyer Co., Charlotte, N. C.

. . . *Turn to page* 220

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"H-W"® YARN CONDITIONER

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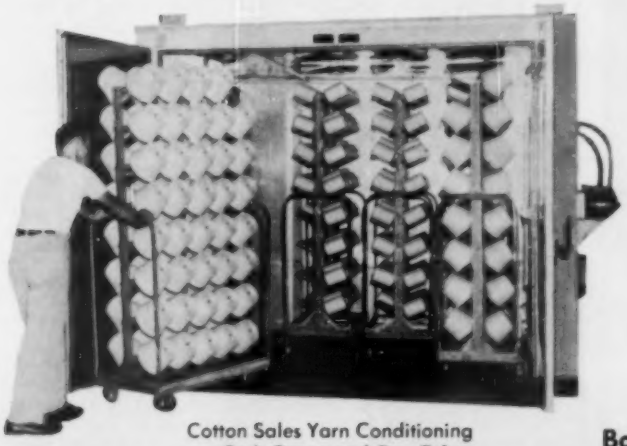

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Now Fairbanks quality in an all-steel welded construction utility truck at a really low price. And, with such ease of handling! One-piece frame with truck-wide handle permits one-hand holding or moving—other hand free to open doors. Stair climber eases load over curbs or stairs. With curved crossbars, the Fairbanks "Mitey Handy" handles round or square cartons, boxes, kegs or bags. Comes with semi-pneumatic wheels in 6", 8" or 10". You can't match this "Mitey Handy" for use on delivery trucks, in stock rooms, hotels, motels or just about everywhere!

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CIRCLE 220 ON READER SERVICE CARD

NEWS ABOUT SUPPLIERS

DRAPER CORP., Hopedale, Mass.—Has announced the formation of a new subsidiary to be known as Marion Industries, Inc. Plans call for construction of a building of about 50,000 square feet, near Marion, S. C. . . . **DIAMOND ALKALI CO.**, Cleveland, Ohio—Has appointed Charles P. Egolf as assistant manager of the Southeastern sales office, Memphis, Tenn. . . . **E. I. DU PONT DE NEMOURS & CO.**, Wilmington, Del.—Has named J. Edward Dempsey assistant manager of the New York consulting service for dyeing and finishing. F. L. Shackelford, Jr., succeeds Mr. Dempsey as assistant manager of the division's Chicago-district sales office. . . . **EASTMAN CHEMICAL PRODUCTS, INC., DIV. EASTMAN KODAK CO.**, New York, N. Y.—Has announced the construction of new quarters in Kingsport, Tenn., for the sales-service and product-development laboratories. Completion of the building is scheduled for early 1961. . . . **FOSTER MACHINE CO.**, Westfield, Mass.—Has named Paul H. Farmer sales manager. He succeeds Edward C. Connor, who has been named president of the company. . . . **FABRIONICS CORP.**, Huntington, N. Y.—Has been appointed exclusive U.S. sales agents for Rothschild measuring equipment for the textile industry.

JAMES H. W. CONKLIN (left) has been appointed general sales manager for Stanley Steel Strapping Div., Stanley Works, New Britain, Conn. TOM L. MOHR (center) has joined Taylor Fibre Co., Norristown, Pa., as sales engineer. M. EARL HEARD, JR. (right) has been appointed assistant to the vice president of Saco-Lowell International Div., Boston, Mass.

FOOD MACHINERY AND CHEMICAL CORP., BECCO CHEMICAL DIV., Buffalo, N. Y.—Will move its administrative and sales headquarters to New York, N. Y. . . . **GENERAL ELECTRIC CO.**, New York, N. Y.—Will start construction of a new plant for the manufacture of basic silicone intermediate chemicals. The new plant, costing nearly $3-million, will add more than 15,000 square feet to the Waterford, N. Y., site. It is expected to go into operation by late 1961. . . . **GEIGY DYESTUFF DIV., GEIGY CHEMICAL CORP.**, Ardsley, N. Y.—Has announced the appointment of Elliott Nelson as senior research and development chemist for the textile pigment research and development laboratories. . . . **GENERAL MILLS, CHEMICAL DIV.**, Kankakee, Ill.—Has appointed Stanley W. Cairns a sales representative, with headquarters in Philadelphia. . . . **HARTFORD FIBERS CO.**, New York, N. Y.—Has announced the appointment of Robert W. Armstrong as sales coordinator. He replaces Bruce Kenworthy, who has resigned. . . . **JOHNS-MANVILLE SALES CORP.**, New York, N. Y.—Has appointed Norman H. Tice textile glass-products sales representative in the New York City area. . . .

MANTON-GAULIN MFG. CO., INC., Everett, Mass.—Has appointed Hayes Textiles, Inc., as exclusive sales representatives to the textile manufacturing and finishing plants for the 8-state Southern territory. Hayes will handle Gaulin Textile homogenizers and other equipment. . . . **MERROW MACHINE CO.**, Hartford, Conn.—Has elected John M. Washburn, Jr. secretary and a director. . . . **MINNEAPOLIS-HONEYWELL REGULATOR CO.**, Minneapolis, Minn.—Has appointed Dr. Van W. Bearinger director of research. Dr. John N. Dempsey and Edward E. Roxer have been named assistant directors. . . . **MORTON MACHINE WORKS**, Columbus, Ga. —Announced the appointment of Parrott & Ballentine as South-

. . . *Begins on page* 218

ern sales agents for Morton's complete line of package, beam, and raw stock dyeing and drying equipment. . . . **MINNESOTA MINING AND MFG. CO.,** St. Paul, Minn.—Has elected Joseph W. Selden divisional vice president, Chemical Div. . . . **NEW YORK AND NEW JERSEY LUBRICANT CO., INC.,** New York, N. Y.—Has named Kenneth Burdon Southern New England district sales manager. . . . **OAKITE PRODUCTS, INC.,** New York, N. Y.—Has appointed Daniel P. Brennan technical-service representative in midtown New York. . . . **PERMUTIT CO., DIV. OF PFAUDLER PERMUTIT, INC.,** New York, N. Y.—Has formed two divisions. A chemical division, which will operate at Ionac Chemical Corp., will have as general manager Robert Van Iderstine. Julius Yetka has been named general manager of the new Industrial Div.

JOHN T. LURCOTT (left) has been appointed territorial sales manager, New York area, by Alloy Tube Div., Carpenter Steel Co., Union, N. J. WARREN RAMSDELL (center) has been appointed sales engineer, Textile Machinery Div., Rodney Hunt Machine Co., Orange, Mass. EDWARD M. DODD (right) has been elected a vice president of Diamond Crystal Salt Co., New York, N. Y.

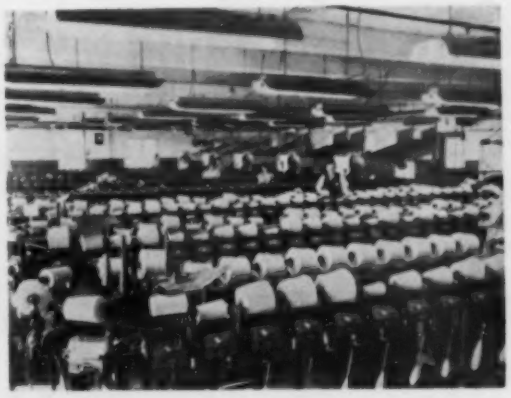
PROCTOR & GAMBLE CO., Cincinnati 1, Ohio—Has appointed J. B. Crowe manager of the Industrial Specialties Sales Div. H. F. Nebel has been appointed manager of the Speciality Products Dept., in charge of selling textile finishing products. J. W. Burch has been appointed zone manager of the textile-finishes section. . . . **PARKER-HANNIFIN CORP.,** Cleveland, Ohio—Has franchised Livingston and Haven, Inc., Charleston, S. C., as distributor for Crown air system regulators, filters and lubricators. . . . **REFINED PRODUCTS CO.,** Lyndhurst, N. J.—Has established sales offices in Charlotte, N. C., and Columbus, Ga. . . . **SCOTT & WILLIAMS, INC.,** Laconia, N. H.—Announces the appointment of Roy W. Bennett as manager of its division sales office in Reading, Pa. . . . **RIDGE TOOL CO.,** Elyria, Ohio—Has appointed Clark A. Milnickel Western sales representative. . . . **SKF INDUSTRIES, INC.,** Philadelphia, Pa.—Has named William Wright general manager, Altoona Div. James A. Graham, formerly plant manager, Philadelphia, succeeds Wright as production manager; Stanley Kabala, former Altoona plant manager, has been appointed plant manager, Philadelphia; and Woodrow Wilson has been named Altoona plant manager.

SUN CHEMICAL CORP., New York, N. Y.—Has announced the establishment of an International Operations Group. William P. Bittenbender was appointed director of the new group. . . . **TENNESSEE EASTMAN CO. AND TEXAS EASTMAN CO.,** Divs. of Eastman Kodak Co., New York, N. Y.—Are being expanded through a recently formed International Div. The new division will be responsible for all sales and service of fibers, chemicals and plastics in all foreign countries. . . . **TORRINGTON CO.,** Torrington, Conn. —Is constructing a plant in Wurselen, West Germany, for production of needles and bearings, replacing its facilities at Aachen. . . . **UNION CARBIDE CORP.,** New York, N. Y. —Will build a $20-million-plus polyethylene plant with an initial capacity of 110-million pounds annually in Puerto Rico. Operations are scheduled to begin in late 1962. . . . **T. B. WOOD'S SONS CO.,** Chambersburg, Pa.—Is moving into its new Southeastern regional warehouse and office building in Atlanta, Ga.

ABBOTT MACHINE CO., Inc.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.



AUTOMATIC CONE OR TUBE WINDERS—for winding all types of spun yarns on cones or tubes for Warping, Dyeing, Twisting, Quilling, Knitting or Sales Packages.

SPECIAL WINDING UNITS FOR KNITTING CONES—include a new slub catcher and a new waxing attachment, which uses standard size commercial wax disks.

LARGE PACKAGES—can be wound up to 11½ inches in diameter for use on shuttleless looms and looms that require a cone supply.

MODEL I AUTOMATIC QUILLER—for coarse count cotton, worsted, wool and other spun yarns, delivers full loom bobbins automatically into boxes, onto pinboards, on wide belt conveyor for inspection of bobbins, or into specially made magazines for automatic loom feeder.

MODEL II HIGH SPEED AUTOMATIC QUILLER (10,000 R.P.M.)—for winding fine count cotton and synthetic yarns of either spun or filament construction.

Also delivers full looom bobbins automatically into boxes, onto pinboards or wide belt conveyor for inspection of bobbins.

Under some conditions one operator can run two or three machines and produce upwards of 2500 full loom bobbins per hour.

ABBOTT FULLY AUTOMATIC RADIAL QUILLER, MODEL II—especially designed for flexibility, is very versatile and particularly well adapted for winding numerous small lots of filling.

Winds coarse or fine count cotton, worsted, wool, rubber and various synthetic yarns, either spun or filament.

Automatic delivery of full loom bobbins onto pinboards, wide belt conveyor for inspection of bobbins, into baskets or other type containers.

Automatic delivery of bobbins can also be supplied whereby full loom bobbins from the individual cones and spindles are delivered into separate containers, which is highly desirable for loom finish yarns and the like.

The Radial Quiller can also be equipped with measured yardage attachments to give accurate, uniform bobbin yardage, as required for two-shuttle looms.

A wide range of spindle speeds for approximately 1000 R.P.M. to 10,000 R.P.M. is obtainable.

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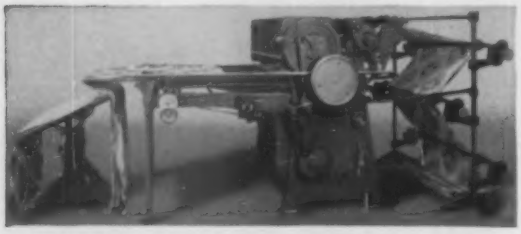

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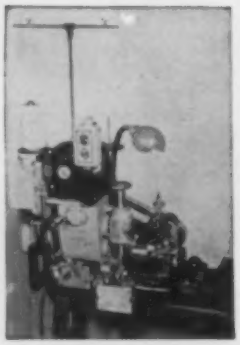

This combination can make several different types of stitching, such as:

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5 stitches in the center and 10 stitches on the selvage
7 stitches in the center and 21 stitches on the selvage
7 stitches in the center and 14 stitches on the selvage

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News About Men

JOHN B. RUSSELL has been elected a vice president of Burlington Industries, Inc., New York, N. Y.

Raymond M. Arnett, formerly vice president and sales manager, Scatter Rug Div., Callaway Mills Co., La Grange, Ga., will be assigned to the Florida territory to represent Callaway in carpet and scatter rugs.

George A. Bates has been named manager of Sayles Bleacheries, Saylesville, R. I.

Walter W. Burbank has been appointed sales manager of automotive carpets, Collins & Aikman Corp., New York, N. Y.

Thomas L. Carver has been appointed staff manager, weaver sales, glass-textile section, Johns-Manville Corp., Toledo, Ohio.

Donald L. Cole has been named Southeastern sales representative for the Unity Plant of Callaway Mills, LaGrange, Ga.

Karl H. Del Porte is now manager of product planning and market research for American Felt Co., Glenville, Conn.

Charles P. Eberling has been named president of the Forstman Div. of J. P. Stevens & Co., Inc. in charge of women's wear merchandising and sales, New York, N. Y.

Arthur B. Edge, III, is the new superintendent of the Hillside plant of Callaway Mills Co., La Grange, Ga.

William J. Erwin, president of Dan River Mills, Danville, Va., received the honorary degree of Doctor of Textiles from Clemson College, Clemson, S. C.

Warren Eustis has retired as head of research operations for The Kendall Co., Boston, Mass.

Kenneth C. Everett has joined Newport Finishing Corp., Fall River, Mass., as superintendent in charge of the Milium Dept.

Leonard Ewenstein has been appointed vice president of Raeford Worsted Co., Div. of Burlington Industries, Inc., New York, N. Y.

James M. Flack has been named a group vice president of Indian Head Mills, Inc. He will be in charge of the Linen Thread Co., Franklin Process Co., and Greige and the Industrial Fabrics Div. of the company with headquarters in Spartanburg, S. C.

David Friedlander has been elected to the board of directors of Duplan of Canada. Ltd., Montreal, Que., Canada, and Duplan Dyeing Co., Inc., Valleyfield, Que., Canada.

John G. Gravlee, Jr., has been named executive in charge of Burlington Throwing Co., Highpoint, N. C., a division of Burlington Industries, Inc., Greensboro, N. C.

R. E. Hamilton was reelected executive vice president of the Tufted Textile Manufacturers Association.

Charles D. Hemphill has been named assistant vice president of Cannon Mills Co., Kannapolis, N. C.

Joseph P. Holt has resigned as president of Aberfoyle Mfg. Co., Philadelphia, Pa.

William L. Holt, Jr., has been named executive vice president of Cramerton Mills, Cramerton, N. C., Div. of Burlington Industries, Inc., Greensboro, N. C.

Joseph M. Horan has joined the retail-fabric department

JAMES L. ESKRIDGE (right) and JAMES D. BARBEE (left) have been elected vice presidents of Burlington Industries, Greensboro, N. C.

of Wamsutta Mills Div. of M. Lowenstein & Sons, Inc., New York, N. Y.

Wynn B. Huskey has joined the staff of Corlin Processing Co., Inc., Landis, N. C.

William B. Irwin has been promoted to sales manager of automotive-upholstery fabrics, Collins & Aikman Corp., New York, N. Y.

Donald MacDonald, Chattanooga, Tenn., a Du Pont executive, was named chairman of the board of the Southern Industrial Relations Conference.

Robert H. McDonald, longtime assistant plant manager of Winnsboro Mills, Winnsboro, S. C., division of United States Rubber Co., New York, N. Y., has retired after 38 years with the company.

Arthur F. McLean has been named executive assistant at Sayles Bleacheries, Saylesville, R. I.

Robert S. Naden has been named chief engineer for Berkshire Hathaway, Inc., New Bedford, Mass.

Joseph E. North, Jr., has been elected vice president of Special Fabrics, Inc., Saylesville, R. I. Sayles Finishing Plants, Saylesville, is the parent company of Special Fabric.

J. Regis Parsons has been named manufacturing manager of the men's and children's division, Burlington Hosiery Co., Greensboro, N. C.

J. M. Pope has been appointed assistant sales manager, Yarn Div., Collins & Aikman Corp., New York, N. Y.

Walter T. Ransburg has been elected president of Jefferson Woolen Mills, Knoxville, Tenn.

HARRY L. DALTON has been named a director of Burlington Industries, Inc., New York, N. Y.

FRANK G. LINNDER has joined the Blends Div., Glen Raven Mills, New York, N.Y., as sales manager.

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NEWS ABOUT MEN . . . *Begins on page* 222

Earl Rushon has been appointed general manager of the Franklin Process Co., Philadelphia, Pa.

Peter G. Scotese has been named general manager of the Franklin Process Co., Philadelphia, Pa.

Joseph G. Shedd has been named superintendent of the Alabama Div. of Dan River Mills, Inc., Danville, Va.

Richard S. Schulman has been named vice president of Burlington Tricot Fabrics Co., Burlington, N. C.

Fritz Tscheulin has joined Pyramid Piece Dye Works, in Paterson, N. J., as head dyer.

Walter Tomasulo has become head finisher at Pyramid Piece Dye Works, Paterson, N. J.

Gilbert G. Tynan, president of Burlington Tricot Fabrics Co., Greensboro, N. C., has been elected president of the Tricot Institute of America, Inc.

Charles O. Wood has been named a group vice president-operations, Finished Goods Div., Bernhard Ulmann Co., Hoosac Mills, and USF-Arnold Finishing Co., Indian Head Mills, Inc., New York, N. Y.

I. Lindsay Waggoner has been named plant manager, Winston Div., Hanes Hosiery Mills Co., Winston-Salem, N. C.

Albert S. Wilson, Jr., has been elected president of Aberfoyle Mfg. Co., Philadelphia, Pa.

OBITUARIES

E. G. Bagley, Sr., 52, manager of the Dixie Mill Div., West Point Mfg. Co., La Grange, Ga.

Harold M. Chase, 88, retired director of research, Dan River Mills, Inc., Danville, Va.

Willis Cochran, 43, salesman for Continental Gin Co., Birmingham, Ala.

Edward W. Dewey, 70, former treasurer and general manager of H. E. Bradford Co., Inc., Bennington, Vt.

Harvey Eastman, 52, former manager of the American Thread Co., New York, N. Y.

Frederick H. Graichen, 60, prominent official in the textile industry, New York City, N. Y.

Albert J. Huber, 64, director of styling and fabric development, Waumbec Mills, Inc., Manchester, N. H.

Harry Jackson, 54, manager of Eureka Printing Co., Clifton, N. J.

Robert A. Kenyon, 93, former president of the John J. Kenyon Mfg. Co. (now defunct) Pawtucket, R. I.

A. Stanley Llewelyn, former superintendent of Wateree Mill, Camden, S. C.

Richard H. Rabbitt, executive vice president of Jordan Mills, Columbus, Ga.

Walter E. Richardson, 65, retired supervisor of weaving at American Spinning Co., Greenville, S. C.

Felix A. Tagliabue, 61, president and owner of Palisades Dyeing Corp., Peace Dale, R. I. Mr. Tagliabue was also president and owner of Palisades Piece Dye Works, North Bergen, N. J., owner of Dixie Dye Works, Emporia, Va., and a partner of Northern Dye Works, North Bergen, N. J.

Ellery C. Tobias, 91, president of Woolrich Woolen Mills, Woolrich, Pa.

R. K. Webb, 73, retired personnel director, Reeves Brothers, Inc., Fairforest Div., Columbus, Ga.

Bergamo Fabrics, Inc., New York, N. Y., has moved into a newly built plant in Long Island City, N. Y., which will double production capacity. The company will manufacture both silk and silk-and-cotton fabrics.

Burlington Industries, Inc., Greensboro, N. C., is building a 350,000-sq.-ft. weaving mill in Cheraw, S. C. Slated date for start of operations: early in 1961. About 1,000 people will be employed.

Burlington Knitwear, Inc., Burlington, N. C., has started operations in a newly renovated building at 1648 West Webb Ave. James A. Chappell is president and general manager of the newly formed company, with Mrs. Chappell as secretary and treasurer. There are about 35 employees on the payroll at present but the company expects to employ about 200 people by early next year. The company will devote its manufacturing to cutting and sewing operations and to hosiery products.

Calvine Cotton Mills, Inc., Charlotte, N. C., has moved its Atlanta, Ga., sales offices to 2255 Lenox Road.

Caron Spinning Co., Rochelle, Ill., has started manufacturing operations in Amsterdam, Holland, for its line of textiles, including Ban-Lon texturized yarn. Caron has exclusive manufacturing rights for Ban-Lon in Belgium and Holland.

Chadbourn Gotham, Inc., Charlotte, N. C., has announced that plans for a merger with Davenport Hosiery Mills, Inc., Chattanooga, Tenn., have been approved by the stockholders of both companies. It is expected that Davenport will be operated as a separate division of Chadbourn Gotham.

Chatham Blankets, Inc., Elkin, N. C., has been formed as the sales company of Chatham Mfg. Co. The new sales agency is a North Carolina corporation, but will maintain its sales offices in New York City.

Cloverdale Knitting Mills Ltd., Edmonton, Alberta, Canada, has moved into a new plant at 14506-118 Ave. Equipment is valued at $65,000.

Felters Co., Boston, Mass., has started building an addition to its recently acquired plant in Millbury, Mass. The company plans to more than double production of Allfab, its nonwoven fabric, in the new space. Total area of the new addition is 4,818 square feet. According to top officials of the company, the investment for the building and equipment will be about $175,000.

General Knitting Mills, Monroe, N. C., has announced an expansion program which will add 40 employees to the payroll. Land has been acquired for additional buildings for new knitting facilities and storage.

P. H. Hanes Knitting Co., Winston-Salem, N. C., has announced that its Galax, Va., plant, now under construction, will be increased by 32,000 square feet above the original plans, which call for 190,000 square feet. Cost of the new plant will be about $2,810,000.

Highland Cotton Mills, Inc., High Point, N. C., has announced that it is in the final stage of a $250,000 expansion program at its Cloverdale Dye Works in High Point. All dye machines have been completely modernized, and new, larger machines are to be installed. The company is also adding a new dye-mixing room and is expanding laboratory facilities.

Kayser-Roth Hosiery Co., Inc., New York, N. Y., has announced plans for a $150,000 expansion of its Pittsboro, N. C., plant. The company will add more than $1-million in equipment to the plant. The annual payroll will be increased to $623,000 with the addition of 150 people.

Line-Made Hosiery Mills, Hickory, N. C., has announced a building-expansion program which will add 2,300 square feet to the plant.

Longview Hosiery Mills, Hickory, N. C., is constructing a 26,000-sq.-ft. addition to its building. The addition will cost about $6,000.

M. Lowenstein & Sons, Inc., New York, N. Y., has announced the formation of Clark-Schwebel Fiber Glass Corp., with executive and sales offices in New York City. The company will engage in the weaving, finishing, and marketing of industrial and decorative fiber glass fabrics, and will function as an independent affiliate of M. Lowenstein. Lowenstein has also announced the start of an expansion and modernization program at its Covington, Ga., plant. The new facilities will be used for the production of man-made-fiber fabrics and will cost upwards of $2-million.

Opelika Mfg. Corp., Opelika, Ala., has started a $200,000 expansion program at its toweling plant at Hawkinsville, Ga.

Pickens Mill, Pickens, S. C., has started a $300,000 enlargement program. As part of the program, the company will install 96 new 50-in. Draper looms.

G. H. Rauschenberg Co., Dalton, Ga., has been bought by Columbus Fiber Mills, Columbus, Ga., producers of automotive fabrics. Rauschenberg Co. is a tufting plant.

Small Bros. Mfg. Co., Fall River, Mass., will close as soon as current orders are filled. It manufactures narrow fabric and braid.

Vanity Fair Mills, New York, N. Y., is building a new plant in Butler, Ala., which will contain 30,000 square feet and will employ about 300 people.

West Point Mfg. Co., West Point, Ga., has bought Beaty hydraulic presses for its Shawmut, Ala., mills.

Fred Whitaker Co., Philadelphia, Pa., has started building a $1-million, 80,000-sq.-ft., wool-scouring plant at Baldoc, S. C.

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3—Rodney-Hunt Trushade Stainless Steel Enclosed Dye Boxes, 10' wide, (1) 8½' frt/b, 41" deep, (2) 9'4" frt/b, 42" deep, stainless oval reel, type #316 s.s.
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1—P & S Loop Dryer 60', 102" stick—1948
2—Smith Drum Stainless 500 lb. Package Dye—1948
2—Smith Drum Stainless Package Dye Machines 100 lb. capacity
2—Proctor & Schwartz Non Woven Units, complete—1954
1—Fletcher Centrifugal Extractor, 60" dia., copper basket, 3 pedestal, side motor, reconditioned
2—Stainless Steel Jacketed Mixing Tanks, with agitators, and covers, 350 gal. each
12—C & K Big 66 Looms, 60", 2 x 1 box, 1949
26—C & K 66 Looms, 54", 4 x 1 box, 1948
12—C & K W3 Convert. Looms, 64", 4 x 1 box, 1939
13—C & K Jacquard Rug Looms 49", 204 Hooks
3—Single Shuttle Rag Rug Looms, 36" cloth, belt driven

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18—Flufion Machines
1—Taslan—U. S. Machine
5—Atwood 10B Doublers
1—Fletcher 2LB Doubler
2—Headless Pkg.—5-501
18—Unirails Twisters—501
6—U. S. Hdless. Pkg. Twisters
8—Utility D.D. Uptwisters
100—Universal No. 50 Winders
80—Foster 75A Winders
8—Atwood Mod. 200 Redraws
2—Sipp Spdless Redraws
3—Arnold Covering Machines
Smith Drum S.S. Skein Dyers 1-12, 1-10, & 1-7 Arm
1—Foster Mod. 102 Cone Winder
4—C & K W-2 Looms
2—Tirrell Strippers
1—Cocker 11 Can Slasher
Machine & Woodworking Lathes
20M—10B Spools 8" T. x 4⅜" B.
10M—Phen. Spools 6" T. x 3½" H.
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3—Metallic Slitters
2—H & W Steam Boxes

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283 CFM 35 psi 10x7 Ingersoll ES1
321 CFM 125 psi 10x11 Chicago T-B
364 CFM 100 psi 10x9 Joy WG9
420 CFM 40 psi 12x9 Ing. ES-1
445 CFM 100 psi 12x11 ES-1-CPT
528 CFM 100 psi 14x12 Inger.-Gardner
660 CFM 125 psi 11½x7x7 Joy WN102
686 CFM 100 psi 14x13 Ing.-CPT
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4—1949 Whitin Silver Lappers, 9-¾" Lap
12—Del. Whitin Bi-Coil Draw., 1949, 14" collars
10—Whitin Model J. Combers, 1950
16—Del. Saco-Lowell Draw., 1945, 4 del. frames
1—Foster 102 Winder, like new, ½" tubes
3—Abbott 120 sp. Quillers, pinbearding
2—Universal #44 Rate Coners, steel cams
2—Sipp HS warpers, 700 & 800 end creels
2—H&W Yarn conditioners, controls, etc.
2—Terrell Model L Quill stripners, ref. conv.
1—Johnson 7-can Slasher, 30" SS cans
1—Cocker 102 Winder, 30" SS cans
80—Draper 40" XD looms, excel. cond., dobby
10—C&K W-3 82" looms, 4x1, low reil
1—Staubli Shuttle Truing machine
8—B-C Portable Warp Tying machines, K, LC, LS, LL
40—84 ¼" x 28" x 10" Section beams
5000—Harness Frames for all size heddles
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1—Paterson 64" Tuber
1—8'—Blickman enclosed dye beck
2—12" Blickman enclosed dye becks
2—Reiner 54 ga Twin-Knitters

2—VV beamers—50"—60"
1—VV—BB-calender—50"
2—VV—Dye Jiggs—60"

1—Vertical Set 18-130" SS cans 35 lb
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1—50″ Pneumatic Calender. 15 ton pressure. 3 roll ball bearing.
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1—54″ Hydraulic Calender, 40 ton pressure, 3 roll ball bearing.
2—40′ x 60″ Open Tenter Frames.
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4—Aldrich Single Process Pickers '53
56—Whitin 44" Revolving Flat Cards
30—H. & B. Revolving Flat Cards, 3" ga.
111—Whitin F Spinning Frames, 3" ga.
2—Whitin Twisters, 3½" gauge

THROWING

12—Atwood Redraw Machines, '50
56—Universal #10 Uptwisters, 184 spdls. 2 lbs. headless package, 1950
2—Universal 10B Ring Twisters, 100 spdls. 7" gauge, 1954

SLASHING AND WINDING

3—Sipp-Eastwood Warpers, '49
1—Johnson 7 can Slasher, 1949
1—Bachman-Uxbridge Gentle Air Slasher
1—Barber-Colman Spooler, 162 pockets
3—Abbott Quillers, 120 spdls. '55
208—Spindles Whitin Schweiter Quillers

WEAVING

260—Draper XD Looms, 54" reed, Diehl and motor, 1947-1951

14—Draper D Looms 66", cam type
33—C. & K. C2 Looms 40"
3—Barber-Colman Portable Tying-In Machines, 1949

DYEING AND FINISHING

1—Cocker Indigo Dye Range, '48
4—Venango S.S. Package Dye Unit, 1948, 3—500 lbs. 1—250 lbs.
4—Blickman Totally Enclosed S.S. Dye Boxes, 2—12', 2—8' motor and drive
15—Unistel S.S. Dry Cans 50 x 23" dia. 35 lbs. pressure, Reeves drive, 1948
44—S.S. Dry Cans 142 x 23" dia.
61—Norton S.S. Dry Cans 48 x 23" dia.
28—Montford Double Acting Nappers
1—Parks & Woolson Hi-Speed Davidson Shear 66½", 1947
1—P. & S. Cure Dryer 25', gas fired, 1954

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12—C&K 60" looms, model C2, multipliers, leno motions, 25 harness
20—D & B 40" Cotton Cards
1—Cocker Warper & Creel
26—C&K 56" S.3 looms, M.D., W/Dobby
1—P & W 3-blade Shear Complete
1—Barber Colman 56" LL Knotter
1—Knowles, 1953, Drum Type H.S. Dresser W/Creel, 96"
1—Set W&S Pin Drafters
2—Holdsworth Gill Reducers
1—P & W 72" x 36" Semi Decater, 1947
2—Collins Fancy Twisters, 200 spdls.
15—Spindles Whitin Schweiter Winder
2—Scutchers 72" and 78" complete
Nash Pumps sizes, 1-2-3-4-5-6
2—Whitin "B" Fancy Twisters, 4" gauge, 200 spindles, M.D.
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1—Gessner Vacuum Extractor, Folder, 76", Adjustable, M.D.
1—Terrell Bobbin stripper, M.D.
1—Hermas 4 Blade Vertical Shear 58"
1—D & F Fearnaught Picker with feed
1—H & W yarn conditioning oven
2—Hunter Fulling Mills 26E
1—Smith Drum 100 arm S.S. skein dye
1—Sample Skein Dryer
2—Hussong S.S. stock & skein dye
1—American Laundry Washer
Stainless Steel Tanks, all sizes
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1—D & F 48" Picker 6 Bar

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1—ATLAS No. 2 48" CONTINUOUS PICKER FEED.
1—D&F 48" x 6-BAR MIXING PICKER, MD.
1—D&F 48" BURR PICKER, w/36" Bramwell Feed. MD.
1—D&F RAG PICKER, yr. 1940, Undershot, MD, w/Sturt. #7 Stock Blower, MD.
2—D&F 48" FEARNAUGHT PICKERS, extended pit feeds, oiling systems, MD's. East w/Sturt. #8 Stock Blowers, MD.
1—D&F 48" FEARNAUGHT PICKER, MD, w/Sturt. #6 Stock Blower, MD.
1—D&F 48" FEARNAUGHT PICKER, w/54" Bramwell Feed, Oiling System, MD. w/Buffalo Size 45 Stock Blower, MD.
1—48" Diam. x 36" Deep S/S EMULSION MIXING TANK, w/2-Pumps.
3—WINDLE HORIZONTAL BAGGING MACHINES.
1—D&F 36" AUTO BOX DUSTER, yr. 1947.

CARDING

5—D&F 60x60 3-CYLINDER T-SLOT WOOLEN CARDS, 96-end DA Tapes, 2 w/Peraltas, MD's.
3—D&F 60x60 3-CYLINDER WOOLEN CARDS, 96-end Tapes, 1-DA, 2-SA, MD's.
10—D&F 48x60 3-CYLINDER WOOLEN CARDS, two w/80-end Tapes, 1-DA, 1-SA, 8-w/ring doffers, 7-w/MD's, 3-FBD.
4—D&F and B. S. ROY 60" TRAVERSE GRINDERS.
2—B. S. ROY 48" TRAVERSE GRINDERS.
1—D&F 60" FLOOR GRINDER STAND, w/crosshead & traverse grinder, MD.
1—D&F 48" FLOOR GRINDER STAND, w/traverse grinder, MD.
2—SPARE D&F 48" SA 80-End TAPE CONDENSERS.
2—NEW ENGLAND MACHINE CO. VACUUM STRIPPING SYSTEMS.
925—FLEX SPOOLS, 40½" & 56½" x 10".
1—HOWARD BROS. CARD CLOTHING TENSION MACHINE.

SPINNING

14—MODEL E WOOLEN SPINNING FRAMES, 120-spindle, 6½" gauge, 5" ring, 9-Whitin, 5-D&F.
1—KENYON ELECT. TAPE BONDER.

WINDING, TWISTING, DRESSING

2—WHITIN 12-SPDL. SCHWEITER WINDERS.
1—ABBOTT 30-SPWL. QUILLER.
2—F&J 80-SPDL. RING TWISTERS, 3" gauge x 2¼" ring, MD.
1—COLLINS 90-SPDL. RING TWISTER, 4½" gauge x 3¼" ring, MD.
1—COLLINS 80-SPDL. RING TWISTER, 5" gauge x 3½" ring, MD.
2—WCM CO. 48" x 48-End MDL. MHS JACKSPOOLERS, Mag. Creels, MD's.
1—WCM CO. 48" x 48-End MDL. NL JACKSPOOLER, Reeves drive, mag creel.
2—J&B 48-SPDL. JACKWINDERS, MD.
3—D&F 111" PINLESS DRESSING UNITS. Yrs. 1943-1945, D&F Compressors, D&F Beamers, MD's.
2—D&F CONVERTED PINLESS DRESSING UNITS, 1—92", 1—102", D&F Compressors, D&F Beamers, MD's.

WEAVING

26—C&K 82" W-3 CONVERTIBLE WOOLEN LOOMS, L/O 15691-15125-14342, Hi Roll.
18—C&K 82" W-3 NON-CONVERTIBLE WOOLEN LOOMS, L/O 15691-15407-15165, Hi Roll.
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1—COMPLETE CLEVELAND TRAMRAIL SYSTEM FOR HANDLING BEAMS.
1—GIBBS SHUTTLE TRUING MACHINE.

GREIGE ROOM

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1—P&W 72" ROLLING and MEASURING MACHINE, w/Trumeter, MD.

DYEING and FINISHING

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1—R&L 18" S/S SAMPLE PIECE DYE KETTLE, MD.
2—HUSSONG 500 LB. S/S STOCK DYE KETTLES.
7—HUSSONG 500 LB. WOODEN STOCK DYE KETTLES.
1—FRANKLIN 250 LB. S/S STOCK DYE KETTLE.
4—PERCOLATOR-TYPE S/S STOCK DYE KETTLES, 2—72" Diam., 2—50" Diam.
2—J. HUNTER 92" x 4-SECTION RAW STOCK DRYERS, perf. plate aprons, w/48" pneumatic loaded squeeze rolls, and Hunter hopper feeds.
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1—TOLHURST 60" COPPER BASKET EXTRACTOR, 3-Point suspension, MD.
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2—R&L MDL. 65 FULLING MILLS, rubber rolls, MD.
2—J. HUNTER No. 20 FULLING MILLS, rubber rolls, FBD.
1—C&M TACKER, hi speed head, MD.
2—R&L 90" RUBBER ROLL CLOTH WASHERS, MD.
2—J. HUNTER RUBBER ROLL CLOTH WASHERS, 1—90", 1—116", MD's.
1—R&L 6' RUBBER ROLL CLOTH WASHER, MD.
1—R&L CARBONIZER ACID SOAKING AND SQUEEZE UNIT, 70" x 140" s/s acid tank, 84" Hydraulic Loaded Squeeze, MD. Swing folder.
1—R&L 54-78" 10-PASS CLOTH DRYER, U. S. Varidrive.
1—J. HUNTER 50-72" 6-PASS CLOTH DRYER, 2-section, MD.
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1—BIRCH DETACKER.
1—72" SINGLE BEATER CEILING SCUTCHER, MD.
1—BIRCH 72" ADJUSTABLE VACUUM SLOT, w/Nash L-6 Pump and separator.
1—P&W 72" x 24" SEMI-DECATOR, w/Nash Pump, MD.
1—P&W 66½" SINGLE BLADE DAVIDSON SHEAR, solid rest, MD.
1—P&W 66½" THREE-BLADE DAVIDSON SHEAR, solid rest, list saving, MD.
1—GESSNER 72" PD HI SPEED CLOTH PRESS, Reeves MD.
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1—D&F 72" x 24-ROLL D. A. NAPPER, MD.
1—D&F 110" NAPPER GRINDER, MD.
1—R&L 4-COMPARTMENT SEMI-CONTINUOUS CRUSHER, MD.
1—WET FINISHING SOAP SYSTEM.
1—P&W 84" x 36" STEAM LUSTREING MACHINE, air guides, s/s tank, aluminum hood, MD.
1—GESSNER 66" x 40" SINGLE CYLINDER WET BRUSH, MD.

MISCELLANEOUS

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50—60x40 WOOD SLATTED DRY FINISHING TRUCKS, rubber tires.
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30—CO. FIRE EXTINGUISHERS, 5-10-15 Lb.
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1—C&M 48" FEARNAUGHT PICKER, Stock blower, MD's.
1—C. S. DODGE RAG PICKER, MD.

CARDING

3—D&F 60x60 3-CYLINDER WOOLEN CARDS, Peraltas, 96-end DA Tapes, MD.

SPINNING

7—D&F 120-SPDL. MODEL E WOOLEN SPINNING FRAMES, 6½" gauge, 5" ring.
1—H&W YARN CONDITIONER.

WINDING, DRESSING

1—WHITIN 12-SPDL. SCHWEITER WINDER.
1—ABBOTT 30-SPDL. QUILLER.
4—D&F CONVERTED PINLESS DRESSING UNITS.
1—COLLINS 152 SPDL. TWISTER, MD.

WEAVING

24—C&K 82" W-3 CONVERTIBLE WOOLEN LOOMS, L/O 15125-14342.

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1—8' & 12' S.S. Dye Becks, enclosed.
1—72" Hinnekens Boil-Off Machine.
8—8' to 15' S.S. Dye Becks.
1—50" V.V. 3-roll Calender B.B.
1—74" Progresive Tubing, Inspection & Measuring Machine with reverse.
130", 86", 72", 43", S.S., Dry Cans.
4—70" Werner Dye Jiggs, stainless.
2—60" Hinnekens Dye Jiggs, Stainless.
1—54" Embossing Machine.
1—60" Micro Padder—2 rubber rolls.
1—Merrow 60 ABB1 with table & motor.
1—60" Beamer.
2—96" Rubber Rolls 18" & 12" Dia.—$500.

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Scutchers—all widths.
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Equipment Locating Service
c/o Textile World
P. O. Box 12, N. Y. 36, N. Y.

Your requirements will be brought promptly to the attention of the used equipment dealers advertising in this issue. You will receive replies directly from them.

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Equipment Locating Service
c/o Textile World
P. O. Box 12, N. Y. 36, N. Y.

Please help us locate the following used equipment:

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TITLE .....
STREET .....
COMPANY .....
CITY .....
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32 DRAPER 44" XD LOOMS
20 Harness Dobby—Center Filing Fork
Weaves up to 46" cloth.

70 DRAPER 40" K LOOMS
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¾ HP. 550 Volt Motors.

BARBER COLMAN–LS–WARP TYING IN MACHINE
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1–HUNTER 76"–15 TON–PNEUMATIC PAD
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19–W-3 AC–84"–1953 LOOMS . . .
1–1957–V.V. 20' CLIP-TENTER–24" TO 72"

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2—Sipp E. Mag Cone Creels.
2—Air Perme-ator Humidifier Units.
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72—Spdle Whitin Schweiter Auto Quillers.
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1—Hinnekins Moire Calender 50" New.
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1—CEILING CONDENSER, P&S., Model 849, Double Drum, 32", Motor Drive.
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E38	E39	E40	E41	E42	E43	E44	E45	E46	E47	E48	E49	E50	E51					
E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65					
E66	E67	E68	E69	E70	E71	E72	E73	E74	E75	E76	E77	E78	E79					
NEW LITERATURE:				L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11				
L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25					
L26	L27	L28	L29	L30	L31	L32	L33	L34	L35	L36	L37	L38	L39					
L40	L41	L42	L43	L44	L45	L46	L47	L48	L49	L50	L51	L52	L53					
DYES & CHEMICALS:				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11				
D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24						
ADVERTISERS' LITERATURE:				A350	A351	A352	A353	A354	A355	A356	A357	A358	A359					
A360	A361	A362	A363	A364	A365	A366	A367	A368	A369	A370	A371	A372	A373					
A374	A375	A376	A377	A378	A379	A380	A381	A382	A383	A384	A385							
REPRINTS:			R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12				
R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26					
R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40					
R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54					

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Good Ideas—Your Best Bet for Lower Costs

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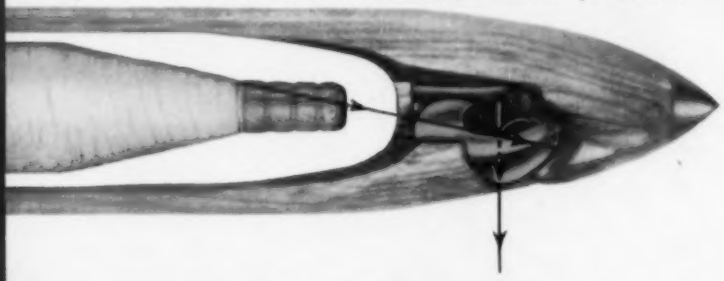
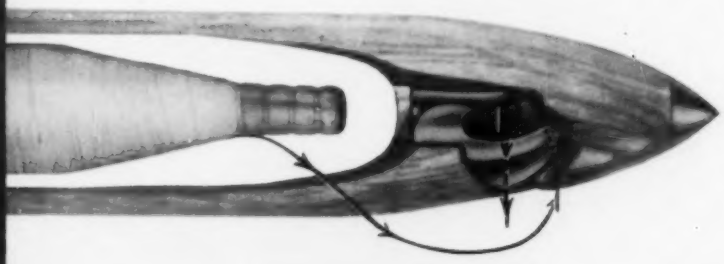
AT LAST!

THE SHUTTLE EYE THAT CAN'T UNTHREAD

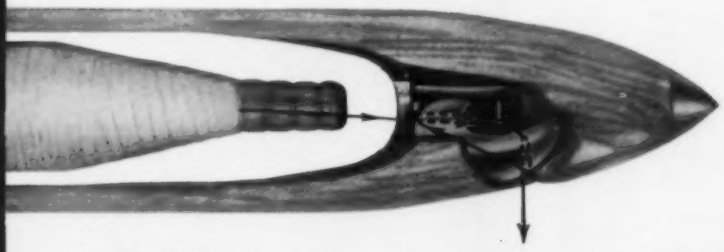
The #112 "McHargue" Eye just simply cannot let the yarn out, no matter how much it balloons, loops, twists and tangles. The Patented construction (U.S. Patent #2659395) keeps the yarn always within the eye, to fall back into normal position at the next pass of the shuttle. This eye was developed by mill men to overcome these most difficult problems.



Here are typical examples: When the eye is threaded, filling can be lifted completely out over top of the eye, and will rethread immediately.



With the yarn completely out over top of the eye, yarn can be "sawed" on hook and will not unthread. When filling is pulled it will fully rethread immediately.



Yarn can be fully looped on eye, around scroll point and hook, and it will rethread immediately at the next pass of the shuttle. Many other faults in yarn passage are overcome just as easily.

The #112 "McHargue" Eye has proved its value through years of testing in numerous high production mills, and is truly "worth its weight in gold." Order your next Southern Shuttles with the new Patented #112 "McHargue" Eye and see how quickly they will save you money by preventing down time and seconds from broken, twisted yarn. Or, ask one of our qualified Sales Engineers to show how you can effect savings and improve production.

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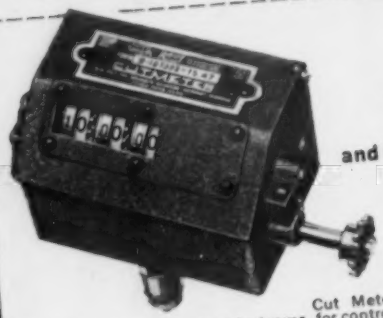
Veeder-Root helps you Control your Mill...

From Pick Counters...

2-3-4 Pick, Hank, Yardage & Knitting Machine Counters

These flexible counters record production separately for each of 2, 3, or 4 shifts, providing a basis for wage payment, production planning, production efficiency, calculations, etc.

To Loom-Cut Meters...



Loom Cut Meters and Predetermining Counters

Cut Meters are predetermining counters for looms, for controlling lengths of cloth woven, without cut marks . . . and thus avoiding over-runs and short pieces.

To Vary-Tally...

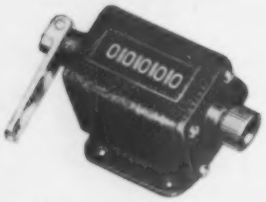
Vary-Tally

This modern hand-operated counter is arranged compactly on stands in tiers. Easily portable, it is ideal for order, stock, inventory control, sales and market analysis, payroll denomination, estimates, traffic control and product inspection. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide.

Pick counters, designed to help you control your production; loom cut meters for presetting cut-lengths; Vary-Tally for hundreds of order, stock, inventory control, inspection, analyses uses These are but a few of the many Veeder-Root counters which can make your profit-picture brighter.

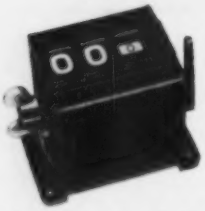
Veeder-Root counters help modern mills to *Countrol* production and costs . . . with accurate, up-to-the-minute data. Your local Veeder-Root representative can give you details on how to completely equip your mill with these dollar-saving counters. Call him in today, or **see him at the Southern Textile Exposition, Greenville, S. C., October 3-7, Booth 107.**

Small Reset Counters



Used on a wide variety of textile machines, including breakers, winders, marking machines, knitting machines and bobbin strippers.

Hosiery Dozens Counter



Used in inspection or on knitting machines (as a production counter) . . . shows single pairs and total dozens count.

Double-Wheel Measuring Counters

Ball Bearing — "Exact Ratio" Geared Reset Counter registers linear units (feet, yards, ¼ of a yard) as material passes under the friction wheels.

High Speed Reset Double Wheel Counter runs suitable from a shaft, measuring drum, cloth, paper, or other material at speeds up to 6,000 rpm or 8,000 cpm.

Count/Pak

One of the new Veeder-Root Count/Paks — an economical device for high velocity, noncontact counting and controlling. Ideal for use on bobbin strippers, also used on folders to permit multiple folder control by a single operator. Speeds up to 2,500 counts per minute with absolute accuracy.

Reset Magnetic Counters

Base or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Widely used for remote indication.

Veeder-Root

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"The Name that Counts"